

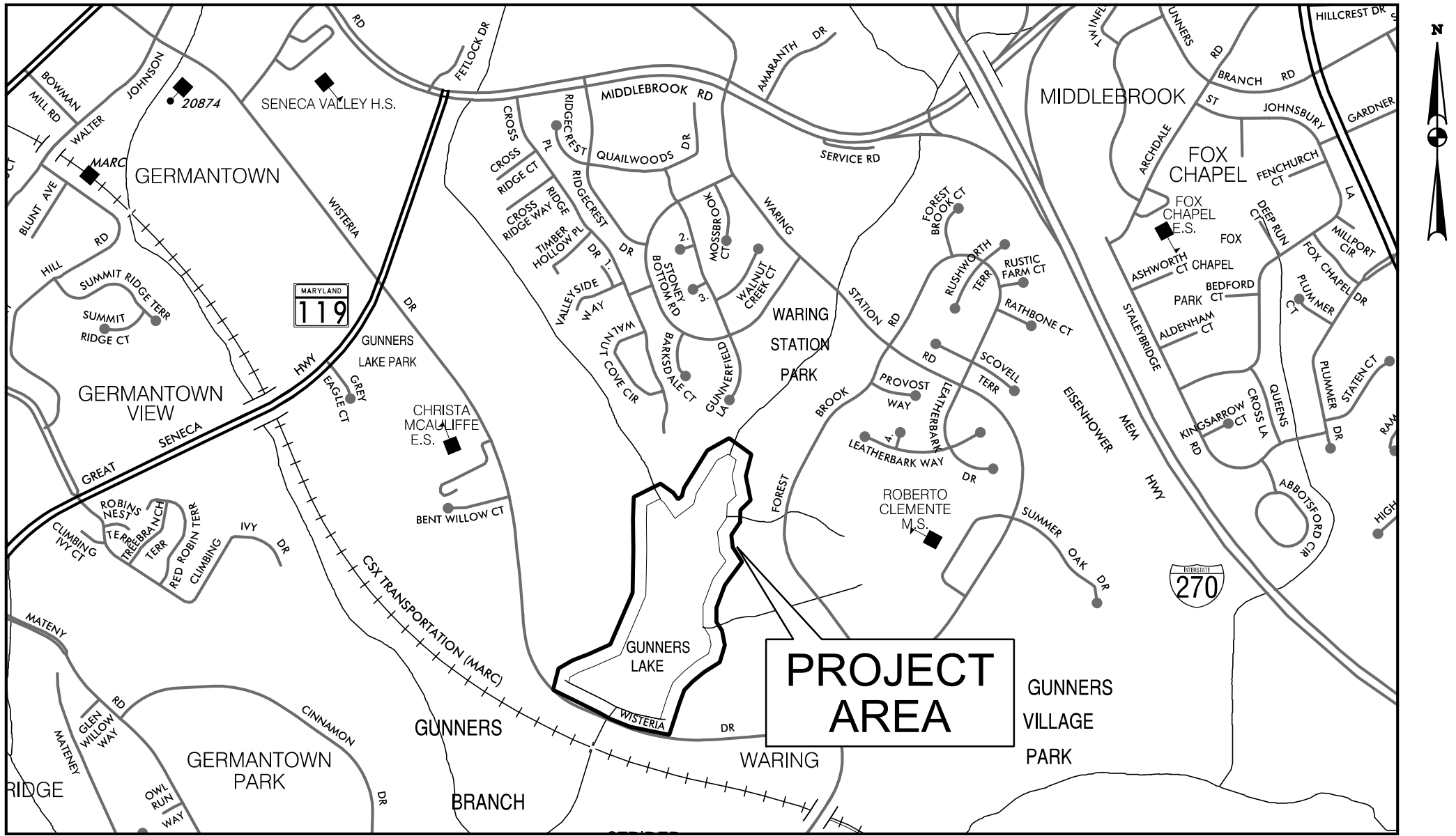
INDEX OF SHEETS

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MONTGOMERY COUNTY
DEPARTMENT OF
ENVIRONMENTAL PROTECTION

GUNNERS LAKE
MAINTENANCE AND HYDRAULIC DREDGING

CONTRACT NO. 0801000108-AD-DD
Task Order 4



VICINITY MAP
SCALE : 1"= 500'

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN DESIGN CRITERIA" DATED AUGUST 1988.

I FURTHER CERTIFY THAT THE TOTAL AMOUNTS OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAVE BEEN COMPUTED TO BE 20,000 CUBIC YARDS OF DREDGING AND 640 CUBIC YARDS TEMPORARY EXCAVATION AND FILL FOR STAGING AREA, THAT THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE A MAXIMUM OF 78,400 SQUARE FEET OR 1.80 ACRES.

DATE

CHRIS BROOKS, P.E.
P.E. # 25819

DATE

WILLIAM WHELAN

DPS PERMIT NO. TBD

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF PERMITTING SERVICES

FINAL APPROVAL

DATE _____

BY _____

•SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

90% SUBMISSION
NOT FOR CONSTRUCTION

OWNER/CONTACT/ADDRESS:
DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. WILLIAM WHELAN
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7727

RELATED REQUIRED PERMITS

TO BE COMPLETED BY THE CONSULTANT AND PLACED ON THE FIRST SHEET OF THE SEDIMENT CONTROL / STORMWATER MANAGEMENT PLAN SET FOR ALL PROJECTS.					
IT IS THE RESPONSIBILITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT					
TYPE OF PERMIT	REQD	NOT REQD	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS FLOODPLAIN DISTRICT					
WATERWAYS/WETLAND(S):					
A. CORPS OF ENGINEERS					
B. MDE					
C. MDE WATER QUALITY CERTIFICATION					
MDE DAM SAFETY					
N.P.D.E.S. NOTICE OF INTENT			N/A	N/A	DATE FILED
DNR ROADSIDE TREE PERMIT					
OTHERS (PLEASE LIST):					

DEVELOPER'S / BUILDER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE OF A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:

Stormwater Management: _____

Sediment Control Technical Requirements: _____

Administrative Requirements: _____

Reviewed _____ Date _____

Approved _____ Date _____

SEDIMENT CONTROL PERMIT NO. _____

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED

GENERAL NOTES

1. THE CONTRACTOR WILL IMMEDIATELY INFORM THE COUNTY OF ANY DISCREPANCIES FOUND BETWEEN THE PROJECT PLANS AND CONTRACT SPECIFICATIONS.
2. FOR CONSTRUCTION, ALL HORIZONTAL DATUM SHALL BE BASED ON NAD 83, VERTICAL SHALL BE BASED ON NAVD 88 DATUM, BATHYMETRIC SURVEY PERFORMED ON NOV. 2011 AND DEC. 2012 BY CPJ & ASSOCIATES.
3. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
4. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES RIGHT OF WAY INSPECTOR.
5. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
6. CLEARING IS TO BE LIMITED TO THE "LIMIT OF DISTURBANCE" AS SHOWN ON THE PLANS.
7. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT THE COUNTY PROJECT ENGINEER, IMMEDIATELY.
8. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
9. DISTURBED AREAS SHALL BE GRADED AND RESTORED TO ORIGINAL CONDITIONS. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
10. THE CONTRACTOR SHALL CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL SHALL BE DONE UNDER SUPERVISION OF W.S.S.C. CALL 301-699-4420. THE PROPOSED WORK AS SHOWN WILL NOT IMPACT ANY WSSL UTILITIES.
11. ALL UTILITY POLES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS.
12. THE CONTRACTOR SHALL CONTACT WASHINGTON GAS DISPATCH OFFICER AT (703)750-4831 BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING GAS MAIN AND SERVICE LATERALS.

CONVENTIONAL SYMBOLS
EXISTING CONSTRUCTION

100 YEAR FLOODPLAIN	
RIGHT OF WAY LINE	
PROPERTY LINE	
CONCRETE CURB AND GUTTER	
EDGE OF WOODED AREAS	
TREE (FREE STANDING)	
SIGN	
FIRE HYDRANT	
LIGHT POLE	
UTILITY POLE	
STORM DRAIN	
SANITARY	

PROPOSED CONSTRUCTION

CONSTRUCTION	
CURB & GUTTER	
TRAVERSE POINT	
SIDEWALK	
PAVEMENT REMOVAL	
APPROXIMATE LIMITS OF CUT AND/OR FILL	
LIMIT OF DISTURBANCE	
STORM DRAIN PIPE	
SOIL BORE	
TEST PIT	
TEMPORARY CONSTRUCTION EASEMENT	
PERPETUAL EASEMENT	
LIMIT OF DISTURBANCE	
ASPHALT SIDEWALK	

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. WILLIAM WHELAN
255 ROCKVILLE PIKE, STE 120
ROCKVILLE, MD 20850-4166
240-777-7727

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:			THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT		
Stormwater Management:		Sediment Control Technical Requirements:		Administrative Requirements:	
<div>Reviewed</div> <div>Date</div>		<div>Reviewed</div> <div>Date</div>		<div>Reviewed</div> <div>Date</div>	
<div>Approved</div> <div>Date</div>		<div>Approved</div> <div>Date</div>		<div>Approved</div> <div>Date</div>	
S.M.F. FILE NO.					
MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED					

DESIGN	JMH	PNK	CJB	DEC 13	NOT TO SCALE
DRAFT					
APPROVED					
DATE					
SCALE					
SHEET	2		19		
OF					

GUNNER'S LAKE
GAIITHERSBURG (8th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. WILLIAM WHELAN
(240) 777-7727

McCORMICK TAYLOR
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

Project No. 11-261		LOG OF BOREHOLE B-1		Sheet 1 of 1	
CLIENT: McCormick Taylor		ARCHITECT/ENGINEER:			
SITE: Germantown, Maryland		PROJECT: Gunners Lake EW1			
		GRAPHIC LOG		SAMPLES	
		DEPTH (FT.)		TESTS	
Surface Elev.: 2.5 ft of water					
2.5					
2.8 Dark gray FINE SANDY SILT (ML/OL) with organics and clay (Sediment), sludge		0.0 3.5 N=3		1 SS 24/24 100% 74	
4.5				34	
End of Boring					
5					
10					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092		STARTED 8/23/13 FINISHED 8/23/13	
		DRILL CO. ABC		DRILL RIG	
		DRILLER		ASST DRILLER	
		LOGGED BY:		APPROVED	

Project No. 11-261		LOG OF BOREHOLE B-2		Sheet 1 of 1	
CLIENT: McCormick Taylor		ARCHITECT/ENGINEER:			
SITE: Germantown, Maryland		PROJECT: Gunners Lake EW1			
		GRAPHIC LOG		SAMPLES	
		DEPTH (FT.)		TESTS	
Surface Elev.: 3 ft of water					
3.0					
Dark gray and brown FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 4" sludge on the top		1-3 5.5 N=8		1 SS 18/24 75% 136	
5				88	
5.4 5.5 N=9				2 SS 20/24 83% 37	
7.0				42	
Loose light brown to gray SILTY FINE SAND (SM) with trace of gravel		4-7 6-7 N=13		3 SS 18/24 75% 42	
9.0					
End of Boring					
10					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092		STARTED 8/26/13 FINISHED 8/26/13	
		DRILL CO. ABC		DRILL RIG	
		DRILLER		ASST DRILLER	
		LOGGED BY:		APPROVED	

Project No. 11-261		LOG OF BOREHOLE B-3		Sheet 1 of 1	
CLIENT: McCormick Taylor		ARCHITECT/ENGINEER:			
SITE: Germantown, Maryland		PROJECT: Gunners Lake EW1			
		GRAPHIC LOG		SAMPLES	
		DEPTH (FT.)		TESTS	
Surface Elev.: 3.5 ft of water					
3.5					
Dark gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), sludge		2-1 2-2 N=3		1 SS 18/24 75% 42	
4.4				22	
Medium dense brown and gray CLAY SAND (SC) with trace of gravel		0-5 7-10 N=12		2 SS 24/24 100% 19	
7.5					
End of Boring					
10					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092		STARTED 8/23/13 FINISHED 8/23/13	
		DRILL CO. ABC		DRILL RIG	
		DRILLER		ASST DRILLER	
		LOGGED BY:		APPROVED	

Project No. 11-261		LOG OF BOREHOLE B-4		Sheet 1 of 1	
CLIENT: McCormick Taylor		ARCHITECT/ENGINEER:			
SITE: Germantown, Maryland		PROJECT: Gunners Lake EW1			
		GRAPHIC LOG		SAMPLES	
		DEPTH (FT.)		TESTS	
Surface Elev.: 1.3 ft of water					
1.3					
Dark gray FINE SANDY SILT (ML/OL) with organics with trace of clay (Sediment), 8" sludge on the top		0.0 0-1 N=0		1 SS 18/24 75% 88	
3.8				34	
Loose light brown to gray SILTY FINE SAND (SM) with trace of gravel		1-2 2-3 N=4		2 SS 18/24 75% 25	
5.3					
End of Boring					
10					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092		STARTED 8/26/13 FINISHED 8/26/13	
		DRILL CO. ABC		DRILL RIG	
		DRILLER		ASST DRILLER	
		LOGGED BY:		APPROVED	

Project No. 11-261		LOG OF BOREHOLE B-5		Sheet 1 of 1	
CLIENT: McCormick Taylor		ARCHITECT/ENGINEER:			
SITE: Germantown, Maryland		PROJECT: Gunners Lake EW1			
		GRAPHIC LOG		SAMPLES	
		DEPTH (FT.)		TESTS	
Surface Elev.: 4.5 ft of water					
4.5					
Dark gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 4" sludge on the top		2.0 2.4 N=2		1 SS 10/24 42% 51	
5				37	
1-1 2-3 N=3				2 SS 20/24 83% 37	
8.5				20	
Brown to reddish brown SILTY SAND (SM) with gravel and shell fragments		1-1 8-21 N=9		3 SS 18/24 75% 20	
10.5					
End of Boring					
10					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092		STARTED 8/23/13 FINISHED 8/23/13	
		DRILL CO. ABC		DRILL RIG	
		DRILLER		ASST DRILLER	
		LOGGED BY:		APPROVED	

Project No. 11-261		LOG OF BOREHOLE B-6		Sheet 1 of 1	
CLIENT: McCormick Taylor		ARCHITECT/ENGINEER:			
SITE: Germantown, Maryland		PROJECT: Gunners Lake EW1			
		GRAPHIC LOG		SAMPLES	
		DEPTH (FT.)		TESTS	
Surface Elev.: 5.6 ft of water					
5.6					
Drak gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 12" sludge on the top		0-0 2-3 N=2		1 SS 24/24 100% 52	
7.6				31	
End of Boring					
10					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092		STARTED 8/23/13 FINISHED 8/23/13	
		DRILL CO. ABC		DRILL RIG	
		DRILLER		ASST DRILLER	
		LOGGED BY:		APPROVED	

Project No. 11-261		LOG OF BOREHOLE B-7		Sheet 1 of 1	
CLIENT: McCormick Taylor		ARCHITECT/ENGINEER:			
SITE: Germantown, Maryland		PROJECT: Gunners Lake EW1			
		GRAPHIC LOG		SAMPLES	
		DEPTH (FT.)		TESTS	
Surface Elev.: 6.5 ft of water					
6.5					
Drak gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 6" sludge on the top		3-6 6-6 N=12		1 SS 18/24 75% 128	
8.6				44	
Medium dense brown and gray SILTY FINE SAND (SM) with trace of gravel and shell fragments		5-6 6-7 N=12		2 SS 24/24 100% 17	
10.6					
End of Boring					
10					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092		STARTED 8/23/13 FINISHED 8/23/13	
		DRILL CO. ABC		DRILL RIG	
		DRILLER		ASST DRILLER	
		LOGGED BY:		APPROVED	

Project No. 11-261		LOG OF BOREHOLE B-8		Sheet 1 of 1	
CLIENT: McCormick Taylor		ARCHITECT/ENGINEER:			
SITE: Germantown, Maryland		PROJECT: Gunners Lake EW1			
		GRAPHIC LOG		SAMPLES	
		DEPTH (FT.)		TESTS	
Surface Elev.: 2.4 ft of water					
2.4					
Drak gray FINE SANDY SILT (ML/OL) with organics and trace of clay (Sediment), 6" sludge on the top		1-4 5-7 N=9		1 SS 24/24 100% 100	
3.9				39	
Medium dense gray CLAYEY FINE SAND (SC) with trace of gravel					
4.4					
End of Boring					
10					
WATER LEVEL OBSERVATIONS		AB Consultants, Inc. 9450 Annapolis Road Lanham, MD 20706 Phone: 301-306-3091 Fax: 301-306-3092		STARTED 8/26/13 FINISHED 8/26/13	
		DRILL CO. ABC		DRILL RIG	
		DRILLER		ASST DRILLER	
		LOGGED BY:		APPROVED	

ACTUAL FIELD BORING COORDINATES		
Boring No.	Easting	Northing
B-1	1239899.835	546162.576
B-2	1239870.646	545863.997
B-3	1240098.398	546194.801
B-4	1240340.276	546510.053
B-5	1240231.535	546150.724
B-6	1240162.512	545801.263
B-7	1240219.483	545895.802
B-8	1240288.332	546183.345

OWNER/CONTACT/ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. WILLIAM WHELAN
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7727

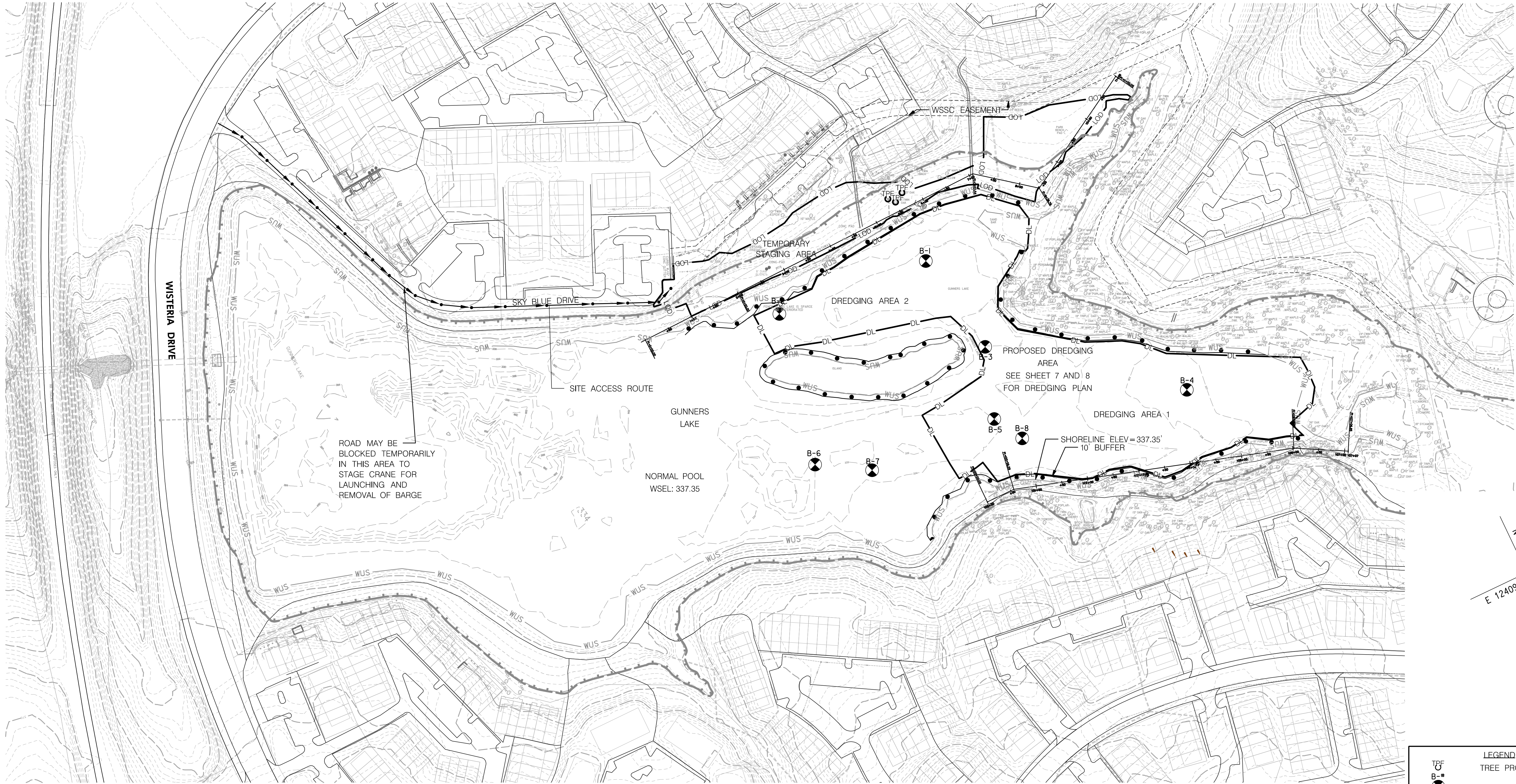
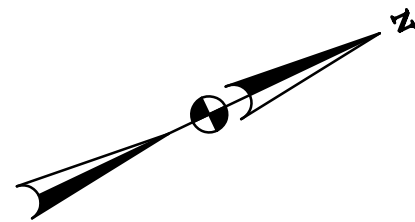
MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:		THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT	
Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:	
Reviewed Date	Reviewed Date	Reviewed Date	
Approved Date	Approved Date	SEDMENT CONTROL PERMIT NO.	
S.W.F.I. NO.		MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED	

BORING LOGS
GUNNER'S LAKE
GATTHERSBURG (8th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. WILLIAM WHELAN
(240) 777-7727

DESIGN JMW
DRAFT PNM
APPROVED CJB
DATE DEC 13
SCALE NOT TO SCALE
SHEET 3 OF 19

McCormick Taylor
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400



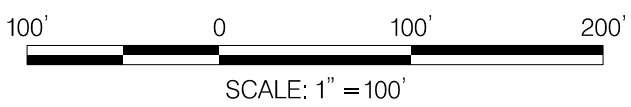
ROAD MAY BE
BLOCKED TEMPORARILY
IN THIS AREA TO
STAGE CRANE FOR
LAUNCHING AND
REMOVAL OF BARGE

NORMAL POOL
WSEL: 337.35

PROPOSED DREDGING
AREA
SEE SHEET 7 AND 8
FOR DREDGING PLAN

DREDGING AREA 1
SHORELINE ELEV = 337.35'
10' BUFFER

LEGEND	
	TREE PROTECTION FENCE
	SOIL BORING
	DREDGING LIMITS
	10' SHORE LINE BUFFER
	LIMIT OF DISTURBANCE
	WATERS OF THE US/ SHORE LINE
	100 YR FLOOD PLAIN
	ACCESS ROAD



SCALE: 1" = 100'

OWNER/CONTACT/ADDRESS

DEPARTMENT OF
ENVIRONMENTAL PROTECTION
MR. WILLIAM WHELAN
255 ROCKVILLE PIKE, STE. 120
ROCKVILLE, MD 20850-4166
240-777-7727

NOTE: CONTRACTOR'S EMPLOYEES ARE NOT ALLOWED
TO PARK IN RESIDENTIAL AREAS OR ALONG
SKY BLUE DRIVE. EMPLOYEE PARKING IS ALLOWED
ALONG WISTERIA DRIVE

MONTGOMERY CO. DEPARTMENT OF
ENVIRONMENTAL PROTECTION APPROVED FOR:

Stormwater Management:

Sediment Control Technical
Requirements:

Administrative Requirements:

Reviewed _____ Date _____

Reviewed _____ Date _____

Reviewed _____ Date _____

Approved _____ Date _____

Approved _____ Date _____

Approved _____ Date _____

SEEDMENT CONTROL PERMIT NO. _____

MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM
THE DATE OF APPROVAL. IF THE PROJECT HAS NOT STARTED
UNLESS THE PERMIT HAS BEEN EXTENDED

THIS APPROVAL DOES NOT NEGATE THE NEED
OF A MCDPS ACCESS PERMIT

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION

255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. WILLIAM WHELAN
(240) 777-7727

EXISTING CONDITIONS ACCESS PLAN

GUNNERS LAKE

GAITHERSBURG (8th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

**MCCORMICK
TAYLOR**
509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

DESIGN
JMH

DRAFT
PNK

APPROVED
CJB

DATE
DEC '13

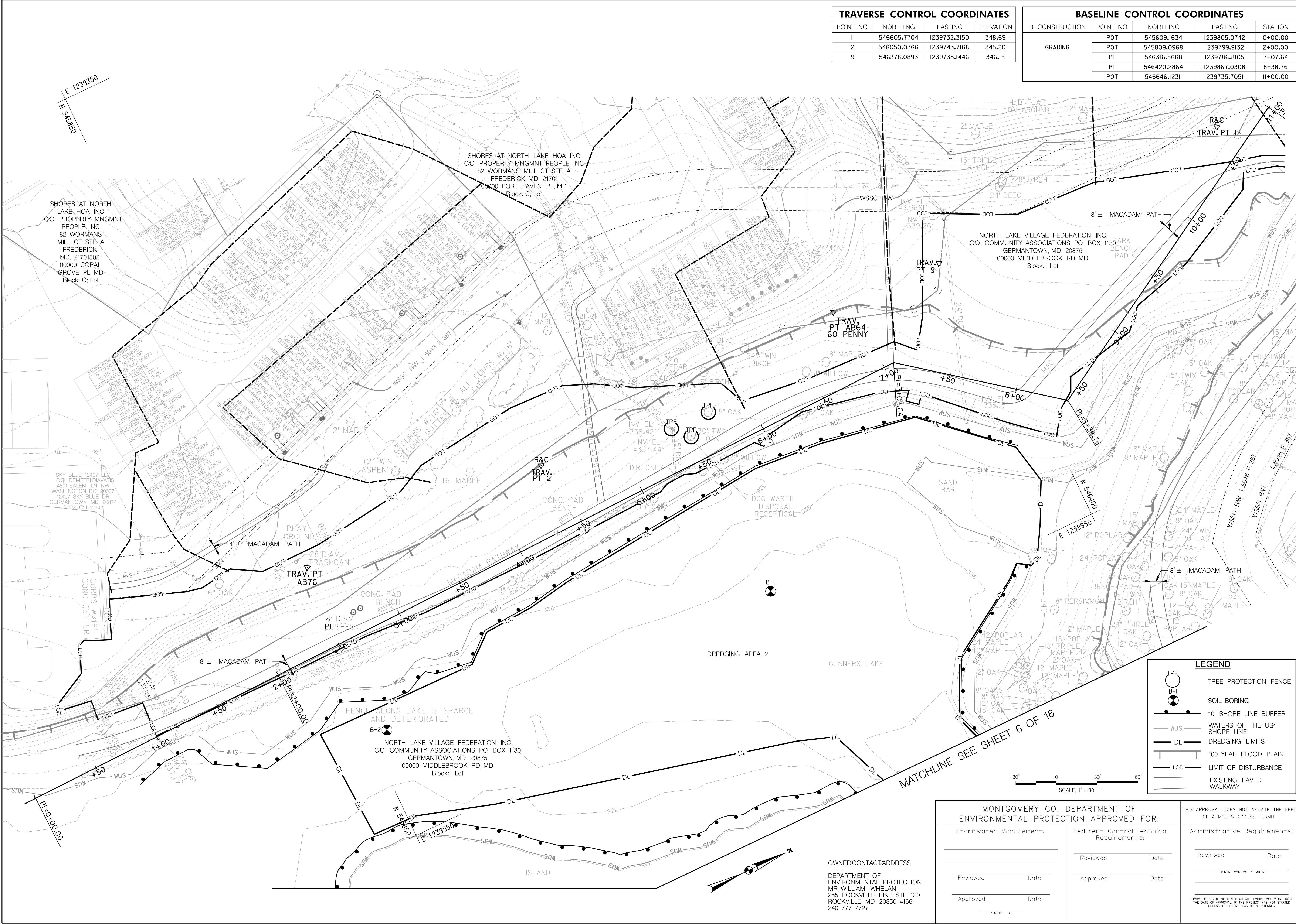
SCALE
1"=100'

SHEET
4

OF

18

FILE: R5414 - montgomery county\04 - gunners lake\design\engineering\plans\052001 - gunners lake plan.dgn
PLOTTED: 04/11/2013 10:11:11 AM



TRAVERSE CONTROL COORDINATES			
POINT NO.	NORTHING	EASTING	ELEVATION
1	546605.7704	1239732.3150	348.69
2	546050.0366	1239743.7168	345.20
9	546378.0893	1239735.1446	346.18

BASELINE CONTROL COORDINATES				
CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION
GRADING	POT	545609.1634	1239805.0742	0+00.00
	POT	545809.0968	1239799.9132	2+00.00
	PI	546316.5668	1239786.8105	7+07.64
	PI	546420.2864	1239867.0308	8+38.76
	POT	546646.1231	1239735.7051	11+00.00

LEGEND	
	TREE PROTECTION FENCE
	SOIL BORING
	10' SHORE LINE BUFFER
	WATERS OF THE US/ SHORE LINE
	DREDGING LIMITS
	100 YEAR FLOOD PLAIN
	LIMIT OF DISTURBANCE
	EXISTING PAVED WALKWAY

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:		THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT
Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:
Reviewed _____ Date _____	Reviewed _____ Date _____	Reviewed _____ Date _____
Approved _____ Date _____	Approved _____ Date _____	SEEDMENT CONTROL PERMIT NO. _____
S.W.F. FILE NO. _____		MCDOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED.

OWNER CONTACT ADDRESS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. WILLIAM WHELAN
255 ROCKVILLE PIKE, STE. 120
ROCKVILLE, MD 20850-4166
240-777-7727

509 South Exeter Street
4th Floor
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EXISTING CONDITIONS PLAN

GUNNERS LAKE

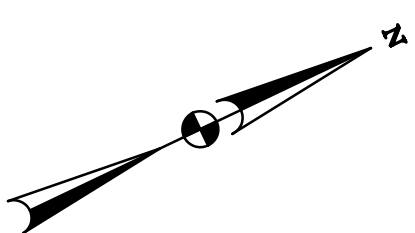
GAITHERSBURG (8th) ELECTION DISTRICT
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CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. WILLIAM WHELAN
(240) 777-7727

DESIGN	JMH
DRAFT	PNK
APPROVED	CJB
DATE	DEC 13
SCALE	1"=30'

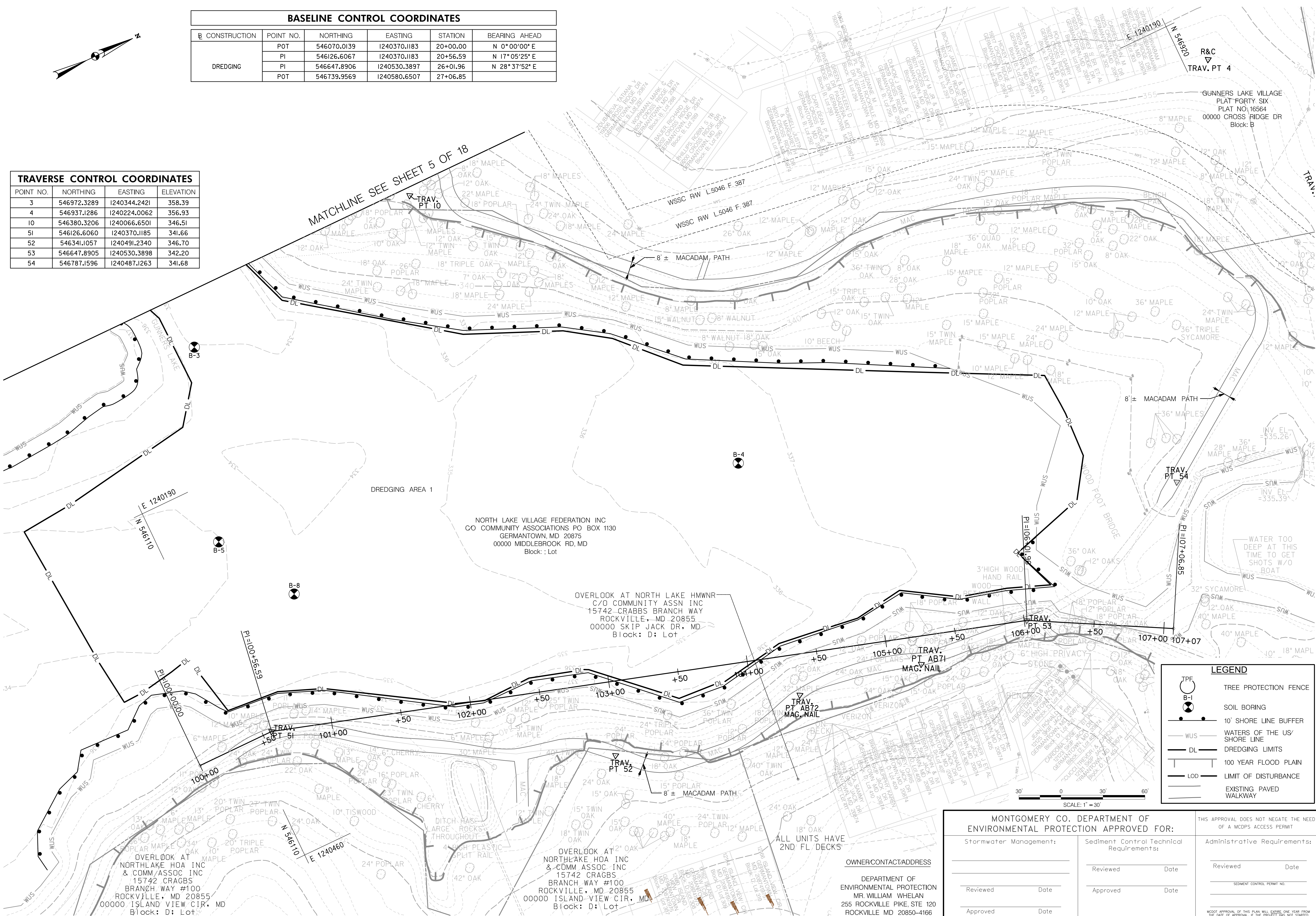
SHEET 5 OF

19



BASELINE CONTROL COORDINATES					
CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION	BEARING AHEAD
DREDGING	POT	546070.0139	1240370.1183	20+00.00	N 0°00'00" E
	PI	546126.6067	1240370.1183	20+56.59	N 17°05'25" E
	PI	546647.8906	1240530.3897	26+01.96	N 17°05'25" E
	POT	546739.9569	1240580.6507	27+06.85	N 28°37'52" E

TRAVERSE CONTROL COORDINATES			
POINT NO.	NORTHING	EASTING	ELEVATION
3	546972.3289	1240344.2421	358.39
4	546937.1286	1240224.0062	356.93
10	546380.3206	1240066.6501	346.51
51	546126.6060	1240370.1185	341.66
52	546341.1057	1240491.2340	346.70
53	546647.8905	1240530.3898	342.20
54	546787.1596	1240487.1263	341.68



LEGEND	
	TREE PROTECTION FENCE
	SOIL BORING
	10' SHORE LINE BUFFER
	WATERS OF THE US/ SHORE LINE
	DREDGING LIMITS
	100 YEAR FLOOD PLAIN
	LIMIT OF DISTURBANCE
	EXISTING PAVED WALKWAY

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:			THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDCPS ACCESS PERMIT	
Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:		
Reviewed _____ Date _____	Reviewed _____ Date _____	Reviewed _____ Date _____		
Approved _____ Date _____	Approved _____ Date _____	Sediment Control Permit No. _____		
S.M.F. NO. _____			MCOOT APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED	

OWNER/CONTACT ADDRESS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
MR. WILLIAM WHELAN
255 ROCKVILLE PIKE, STE 120
ROCKVILLE MD 20850-4166
240-777-7727

MCCORMICK & TAYLOR

509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

EXISTING CONDITIONS PLAN

GUNNERS LAKE

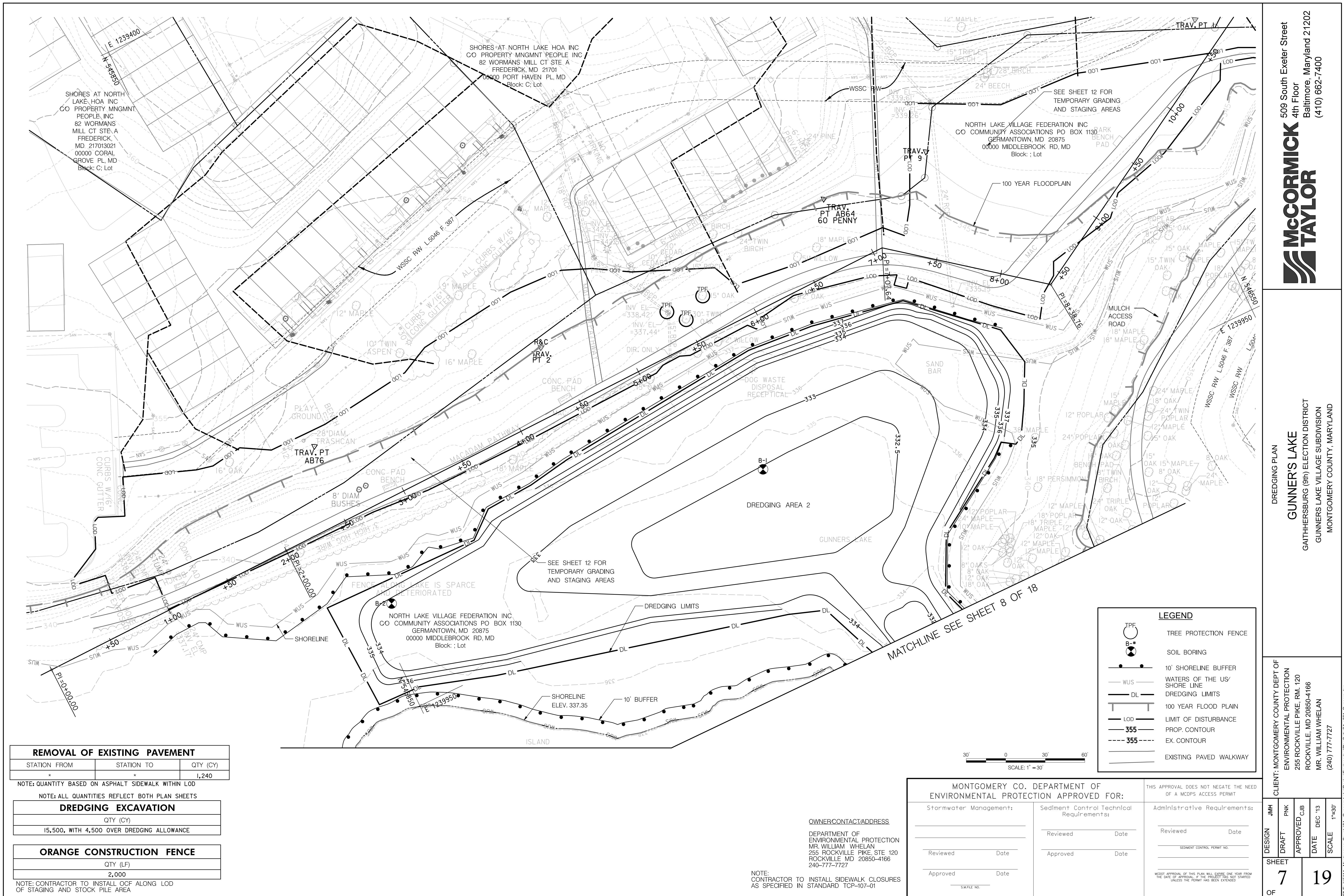
GATTHERSBURG (8th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. WILLIAM WHELAN
(240) 777-7727

DESIGN	JWH
DRAFT	PNK
APPROVED	CJB
DATE	DEC 13
SCALE	1"=30'

SHEET **6** OF

19



GUNNER'S LAKE
GAITHERSBURG (9th) ELECTION DISTRICT
GUNNERS LAKE VILLAGE SUBDIVISION
MONTGOMERY COUNTY, MARYLAND

**MCCORMICK
TAYLOR**

509 South Exeter Street
4th Floor
Baltimore, Maryland 21202
(410) 662-7400

DREDGING PLAN

CLIENT: MONTGOMERY COUNTY DEPT OF
ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. WILLIAM WHELAN
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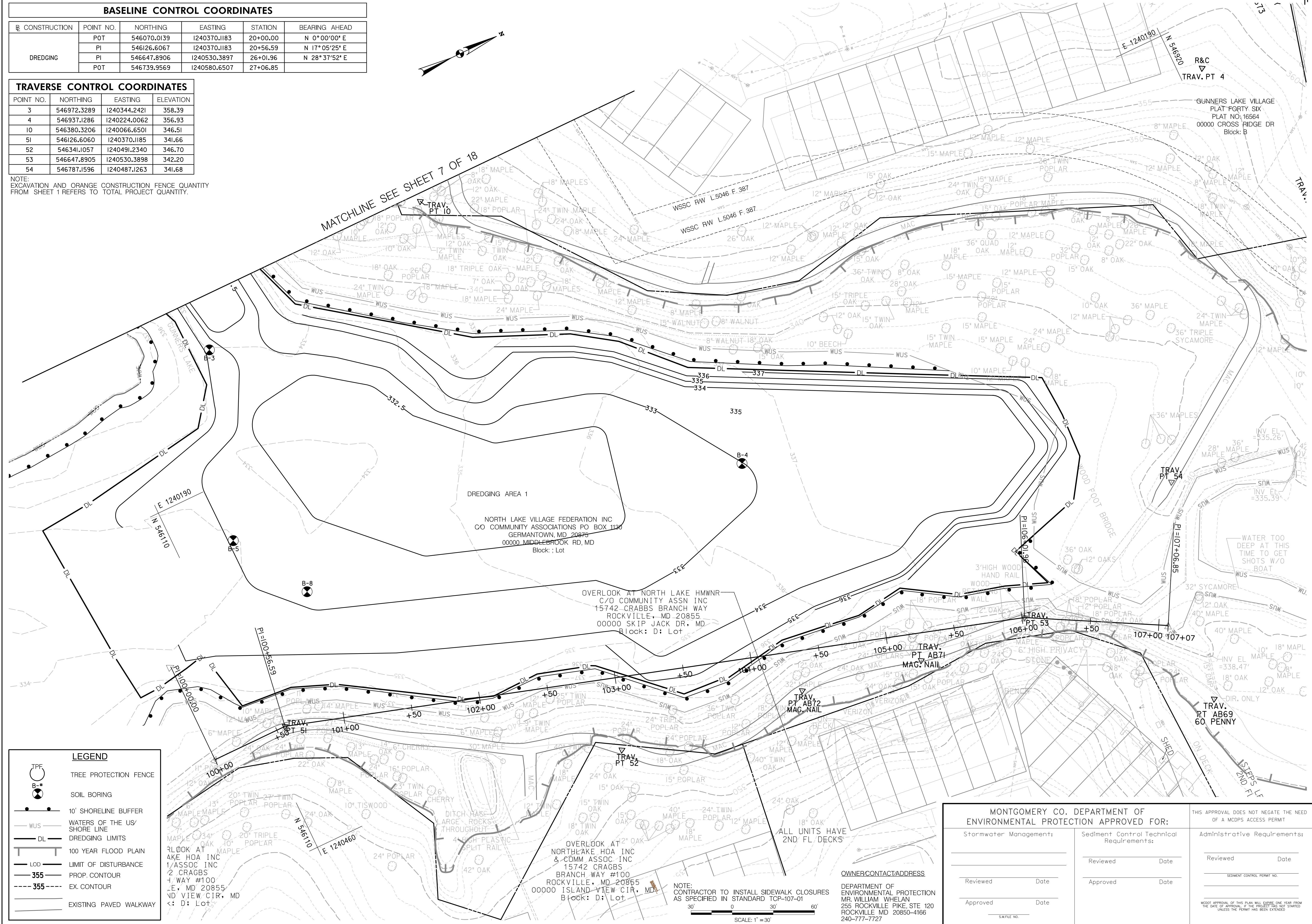
SHEET	JMH DESIGN
7	PNK DRAFT
	CJB APPROVED
	'13 DEC DATE
OF	"-30" SCALE
19	

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PLOTTER: \$DATE\$TIME\$

BASELINE CONTROL COORDINATES					
CONSTRUCTION	POINT NO.	NORTHING	EASTING	STATION	BEARING AHEAD
DREDGING	POT	546070.0139	1240370.1183	20+00.00	N 0°00'00" E
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TRAVERSE CONTROL COORDINATES			
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53	546647.8905	1240530.3898	342.20
54	546787.1596	1240487.1263	341.68

NOTE:
EXCAVATION AND ORANGE CONSTRUCTION FENCE QUANTITY
FROM SHEET 1 REFERS TO TOTAL PROJECT QUANTITY.



TPF

B-#

SOIL BORING

10' SHORELINE BUFFER

WATERS OF THE US' SHORE LINE

DREDGING LIMITS

100 YEAR FLOOD PLAIN

LIMIT OF DISTURBANCE

PROP. CONTOUR

EX. CONTOUR

EXISTING PAVED WALKWAY

LEGEND

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:			THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDCPS ACCESS PERMIT		
Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:			
Reviewed _____ Date _____	Reviewed _____ Date _____	Reviewed _____ Date _____			
Approved _____ Date _____	Approved _____ Date _____	Sediment Control Permit No. _____			
S.M.F.I. No. _____			WOOD APPROVAL OF THIS PLAN WILL EXPIRE ONE YEAR FROM THE DATE OF APPROVAL. IF THE PROJECT HAS NOT STARTED UNLESS THE PERMIT HAS BEEN EXTENDED		

MCCORMICK TAYLOR

509 South Exeter Street

4th Floor

Baltimore, Maryland 21202

(410) 662-7400

DREDGING PLAN

GUNNERS LAKE

GATTHERSBURG (8th) ELECTION DISTRICT

GUNNERS LAKE VILLAGE SUBDIVISION

MONTGOMERY COUNTY, MARYLAND

CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION

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OF

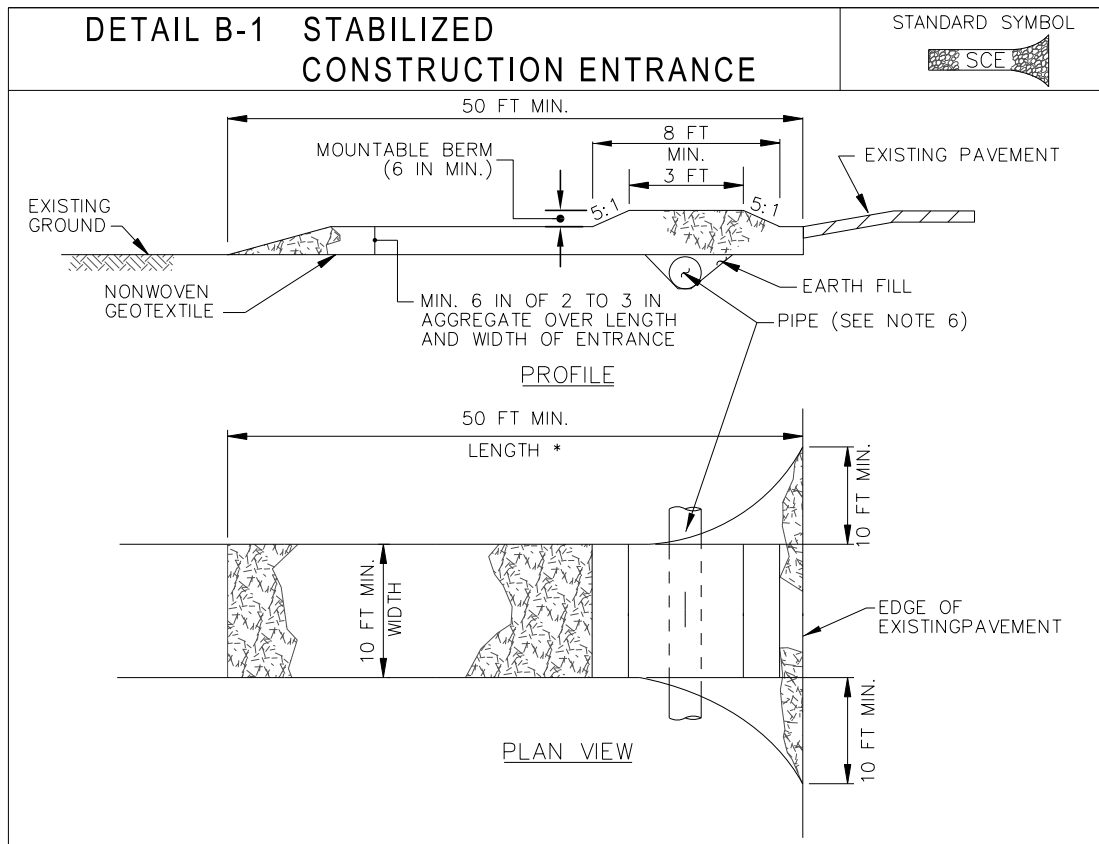
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FILE: 03414 - Montgomery County/04 - Gunners Lake Design/Plan/Setup/02 - Gunners.dgn PLOTTED: DATE/TIME:

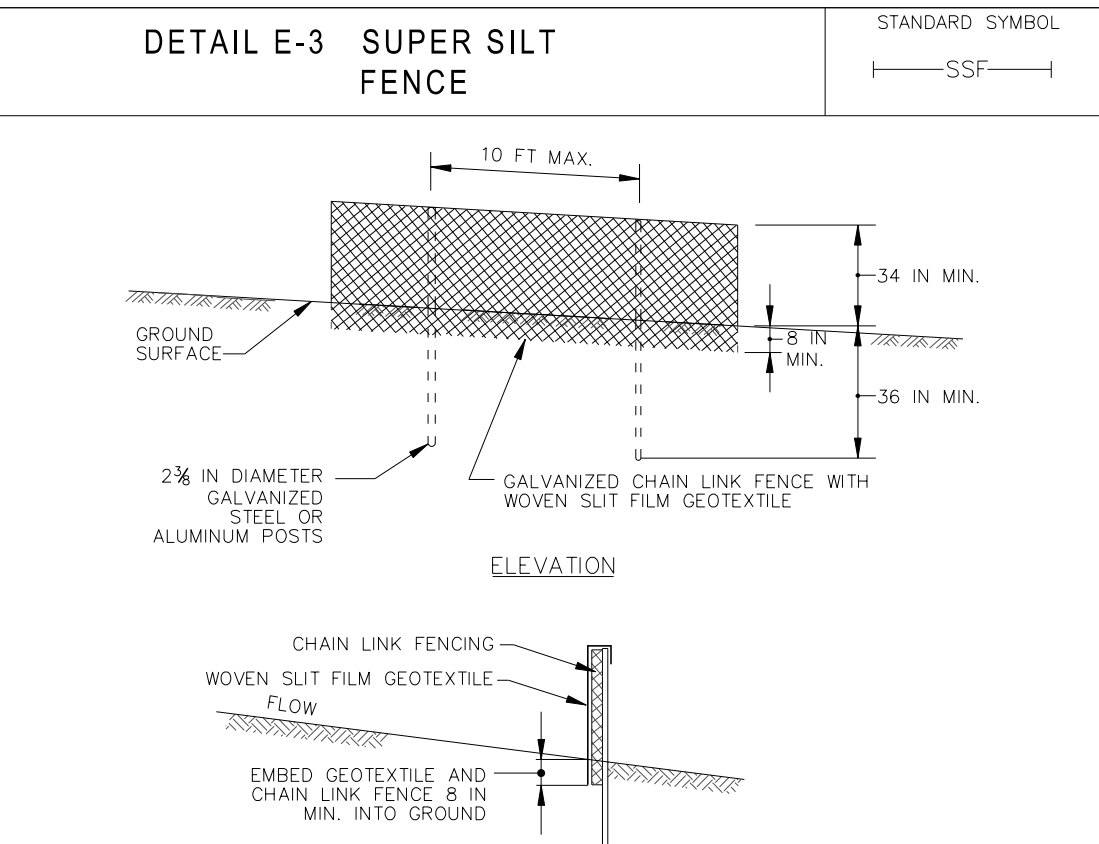
MONTGOMERY COUNTY GOVERNMENT STANDARD EROSION AND SEDIMENT CONTROL NOTES (REV. May 2013)		509 South Exeter Street 4th Floor Baltimore, Maryland 21202 (410) 662-7400	
1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY-EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE, THEIR ENGINEER AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.		<div>McCormick & Taylor</div>	
2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS: A. AT THE REQUIRED PRE-CONSTRUCTION MEETING. B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY. C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY. D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S). E. PRIOR TO FINAL ACCEPTANCE.			
3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE. SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE DEPARTMENT.			
4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.			
5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION, ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.			
6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.			
7. THE PERMITTEE SHALL APPLY SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPT FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.			
8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHEN THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.			
9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SCSM PLANS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.			
10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWN SLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.			
11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN 3 CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.			
12. SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.			
13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON- MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.			
14. THE PERMITTEE SHALL INSTALL A SPLASHBLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.			
15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL.			
16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.			
17. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.			
18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.			
19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.			
20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.			
21. SEDIMENT TRAP(S) BASIN(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT OF ONE-HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP/BASIN (1/4 THE WET STORAGE DEPTH FOR ST-II) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.			
22. SEDIMENT REMOVED FROM TRAP/S BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.			
23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THE TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT, WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.			
24. NO EXCAVATION IN THE AREAS OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK.			
25. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.			
26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED: A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON-SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON-EROSIVE OUTLET; OR C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON-WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.			
REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.			
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REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.			
27. THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.			
28. TOPSOIL MUST BE APPLIED TO ALL PVIOUS AREAS WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MDE *STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS*.			
TEMPORARY SEEDING SPECIFICATIONS			
1. TEMPORARY SEEDING: SHALL BE DONE BETWEEN MARCH 1 – MAY 15 AND AUGUST 15 – OCTOBER 15. ALL OTHER DISTURBED AREAS REQUIRING STABILIZATION NOT WITHIN THE SEEDING DATES SHALL BE MULCHED.			
2. ALL TEMPORARY SEEDED AREAS SHALL BE MULCHED IMMEDIATELY AFTER SEEDING. MULCH MATERIALS SHOULD BE UNWEATHERED, UNCHOPPED, SMALL GRAIN STRAW SPREAD AT A RATE OF 2 TONS PER ACRE. THE MULCH SHALL BE ANCHORED IMMEDIATELY AFTER PLACEMENT WITH ASPHALT, PEG AND TWINE, PLASTIC NETTINGS OR BY A MULCH ANCHORING TOOL.			
3. LIME AND FERTILIZER SHALL BE REQUIRED FOR TEMPORARY SEEDING IN ACCORDANCE WITH THE FOLLOWING PROCEDURES: 1. PULVERIZED DOLOMITIC LIMESTONE IS TO BE APPLIED AT THE RATE OF 90 LBS. PER 1,000 SQ. FT. 2. FERTILIZER SHALL BE 10-20-20 OR EQUIVALENT AND APPLIED AT THE RATE OF 10 LBS. PER 1,000 SQ. FT.			
PERMANENT SEEDING AND SODDING SPECIFICATIONS			
1. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED.			
2. SOIL PREPARATION: WEEDS AND UNDESIRABLE GRASSES GROWING ON EXISTING GRADE THAT IS TO BE SEEDED AND/OR SODDED MUST BE CUT AND REMOVED BEFORE SOIL PREPARATION BEGINS. BEFORE SEEDING OR SODDING ALL SOILS SHALL BE LOOSENEED BY MEANS OF FILLING AND/OR DISCING. ALL TRASH, DEBRIS, ROOTS, BRUSH, WIRE, ROCKS, STONE AND OTHER FOREIGN DEBRIS OVER ONE INCH IN DIAMETER SHALL BE REMOVED PRIOR TO SEEDING AND/OR SODDING, TO A DEPTH OF FOUR (4) INCHES.			
3. TOPSOIL: THE MINIMUM ORGANIC CONTENT IN THE MSHA SPECIFICATION REFERENCED SHALL BE INCREASED TO 10%. ORGANIC MATTER SHALL BE ADDED USING COMPOST MATERIAL MEETING THE STANDARD REQUIREMENTS IN THE SPECS.			
4. SEEDED PREPARATION: THE TOP LAYER OF SOIL SHALL BE LOOSENEED BY DISCLING OR RAKING (SHALL BE DONE			

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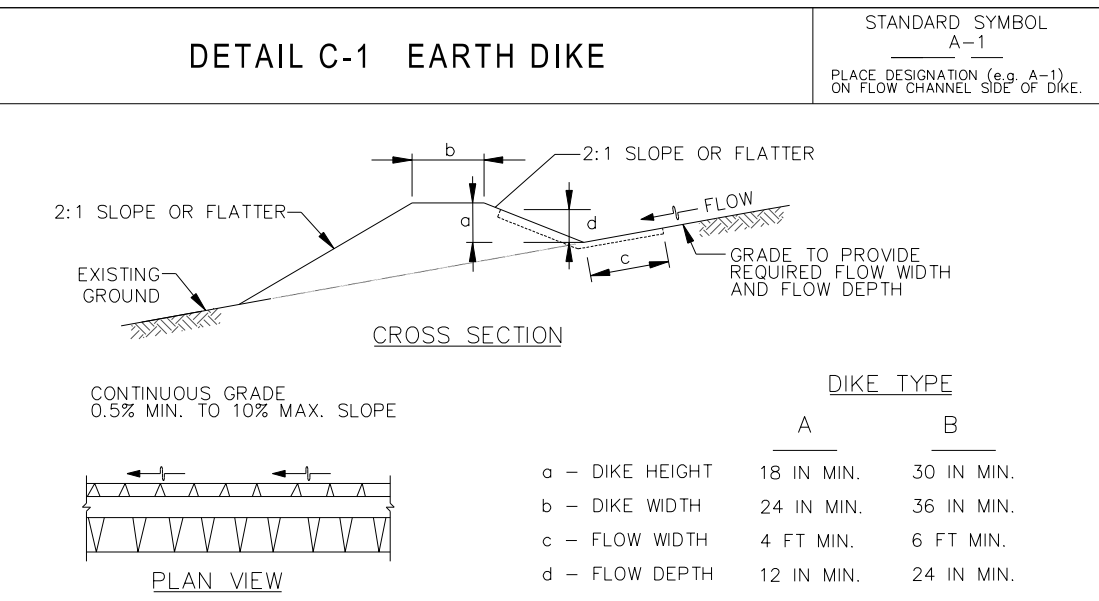
- CONSTRUCTION SPECIFICATIONS**
- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE TO FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
 - PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
 - PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
 - PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
 - MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



- CONSTRUCTION SPECIFICATIONS**
- INSTALL 2 3/4 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
 - FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 3/4 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
 - FASTEN WOVEN SILT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
 - WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STARTED TO PREVENT SEDIMENT BY PASS.
 - EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
 - PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
 - REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 20% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN, IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

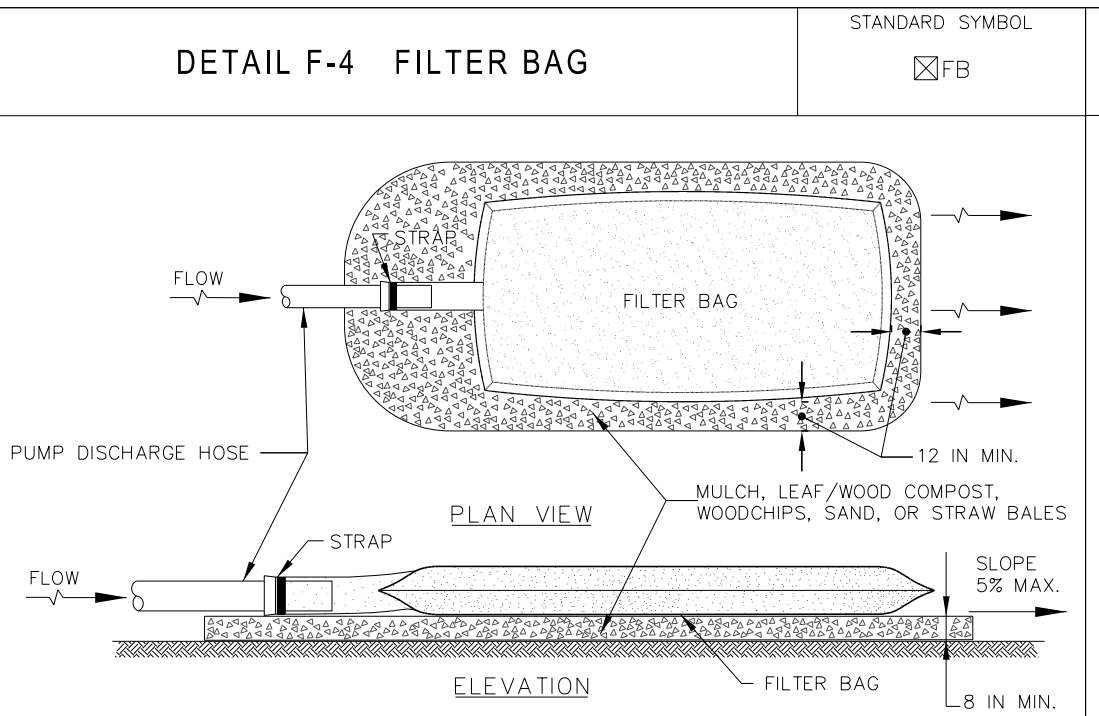
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



- FLOW CHANNEL STABILIZATION**
- A-1 SEED WITH STRAW MULCH AND TACK. (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
- A-2/B-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD.
- A-3/B-3 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE PRESSED INTO SOIL. A MINIMUM OF 7 INCHES AND FLUSH WITH GROUND.

- CONSTRUCTION SPECIFICATIONS**
- REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF EARTHDIKE.
 - EXCAVATE OR SHAPE EARTH DIKE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
 - COMPACT FILL.
 - CONSTRUCT FLOW CHANNEL ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
 - PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
 - STABILIZE EARTH DIKE WITHIN THREE DAYS OF INSTALLATION. STABILIZE FLOW CHANNEL FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
 - MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP EARTH DIKE AND POINT OF DISCHARGE FREE OF EROSION, AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
 - ON REMOVAL OF EARTH DIKE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, AND MULCH, OR AS SPECIFIED ON APPROVED PLAN.

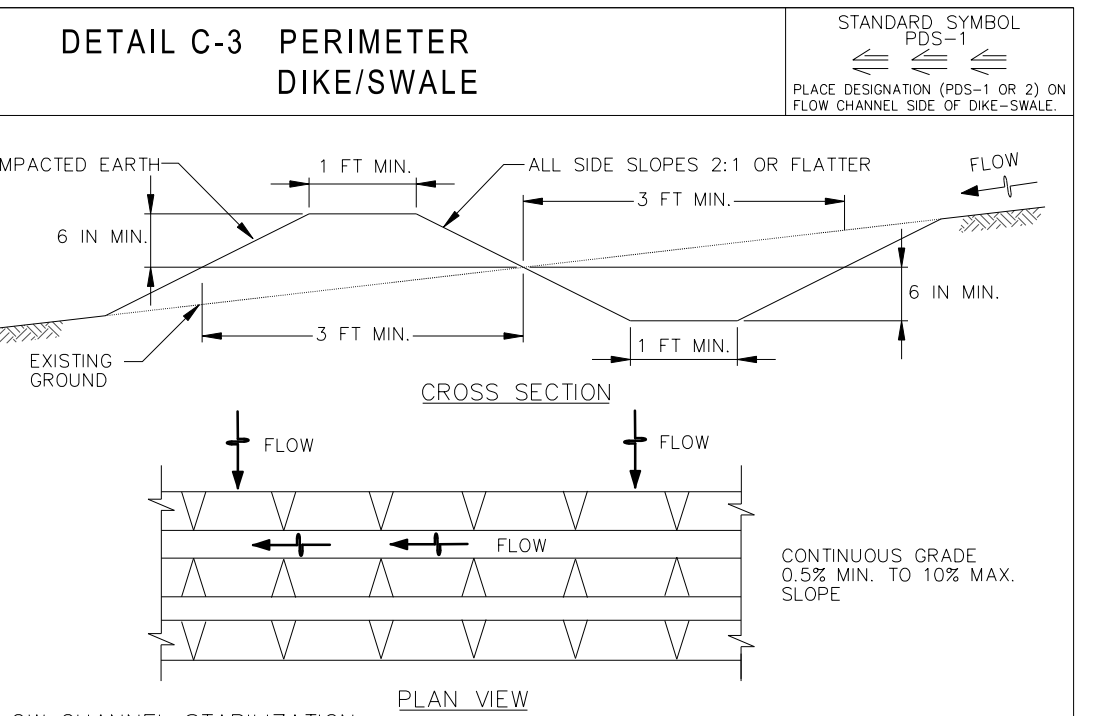
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



- CONSTRUCTION SPECIFICATIONS**
- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
 - PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
 - CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
 - REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
 - USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE PUNCTURE	250 LB	ASTM D-4632
FLOW RATE	150 LB	ASTM D-4633
PERMEABILITY (SEC ⁻¹)	70 GAL./MIN./FT ²	ASTM D-4491
UV RESISTANCE	1.2 SEC ⁻¹	ASTM D-4491
APPARENT OPENING SIZE (AOS)	70% STRENGTH @ 500 HOURS	ASTM D-4355
SEAM STRENGTH	0.15-0.18 MM	ASTM D-4751
	90%	ASTM D-4632
 - REPLACE FILTER BAG IF BAG CLOSOS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

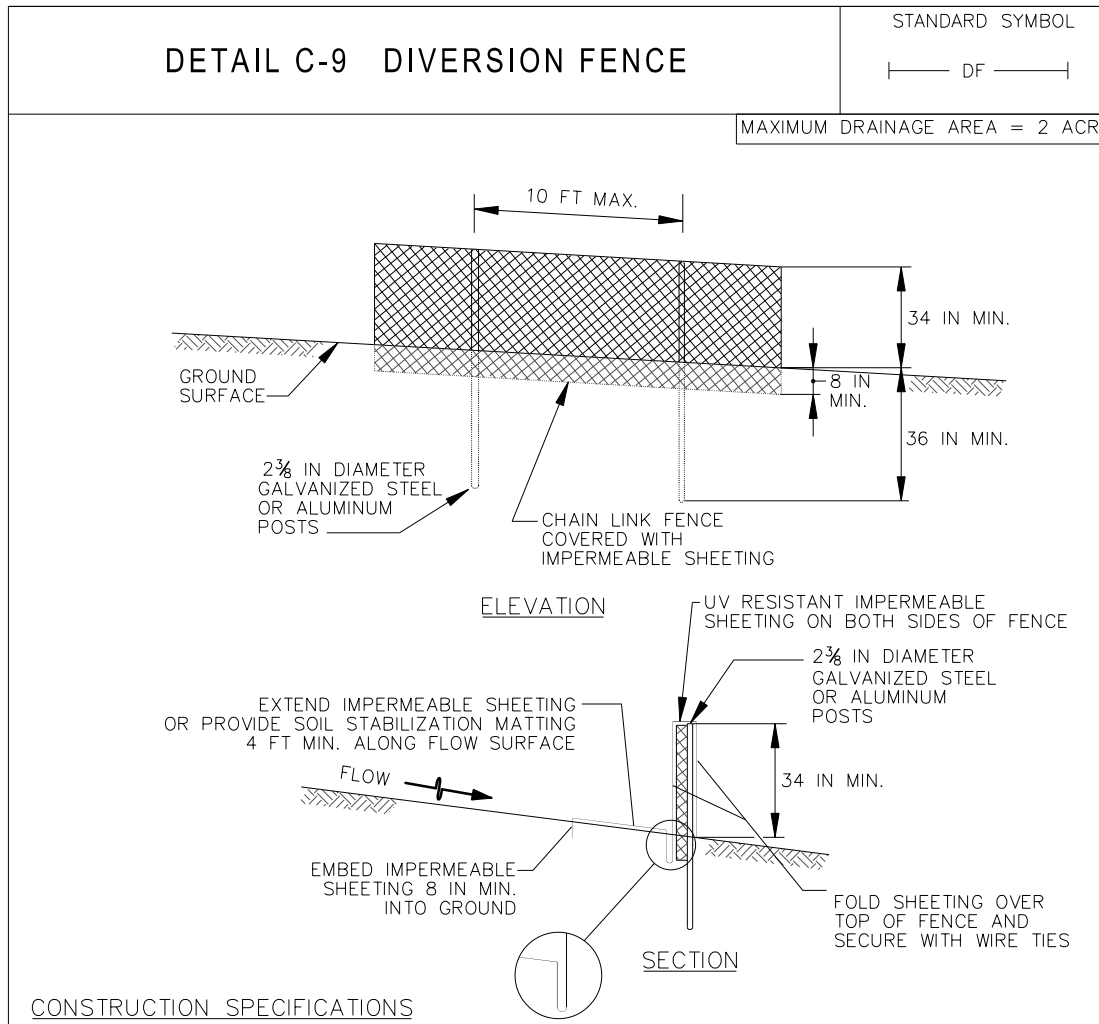
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



- FLOW CHANNEL STABILIZATION**
- PDS-1 SEED AND MULCH AND TACK (DRAINING < 1 ACRE) (NOT ALLOWED FOR CLEAR WATER DIVERSION.)
- PDS-2 SEED WITH SOIL STABILIZATION MATTING OR LINE WITH SOD (DRAINING BETWEEN 1 AND 2 ACRES).

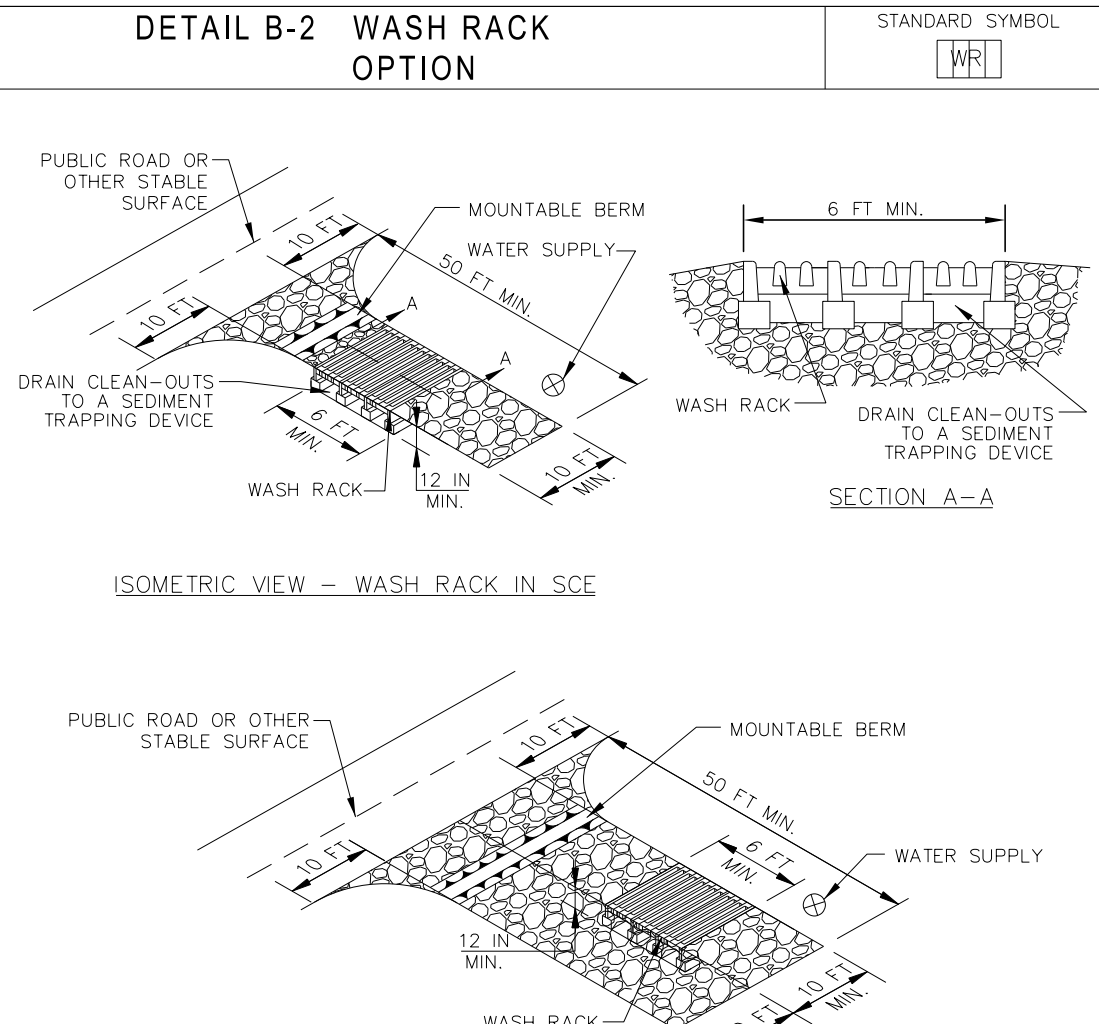
- CONSTRUCTION SPECIFICATIONS**
- REMOVE AND DISPOSE OF ALL TREES, BRUSH, STUMPS, OBSTRUCTIONS, AND OTHER OBJECTIONABLE MATERIAL SO AS NOT TO INTERFERE WITH PROPER FUNCTION OF DIKE/SWALE.
 - EXCAVATE OR SHAPE DIKE/SWALE TO LINE, GRADE, AND CROSS SECTION AS SPECIFIED. BANK PROJECTIONS OR OTHER IRREGULARITIES ARE NOT ALLOWED.
 - COMPACT FILL.
 - CONSTRUCT DIKE/SWALE ON AN UNINTERRUPTED, CONTINUOUS GRADE, ADJUSTING THE LOCATION DUE TO FIELD CONDITIONS AS NECESSARY TO MAINTAIN POSITIVE DRAINAGE.
 - PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
 - STABILIZE DIKE/SWALE WITHIN 3 DAYS OF INSTALLATION. STABILIZE DIKE/SWALES USED FOR CLEAR WATER DIVERSION WITHIN 24 HOURS OF INSTALLATION.
 - MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS, AND MAINTAIN POSITIVE DRAINAGE. KEEP PERIMETER DIKE/SWALE AND POINT OF DISCHARGE FREE OF EROSION AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
 - ON REMOVAL OF DIKE/SWALE, GRADE AREA FLUSH WITH EXISTING GROUND. WITHIN 24 HOURS OF REMOVAL STABILIZE DISTURBED AREA WITH TOPSOIL, SEED, MULCH, OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



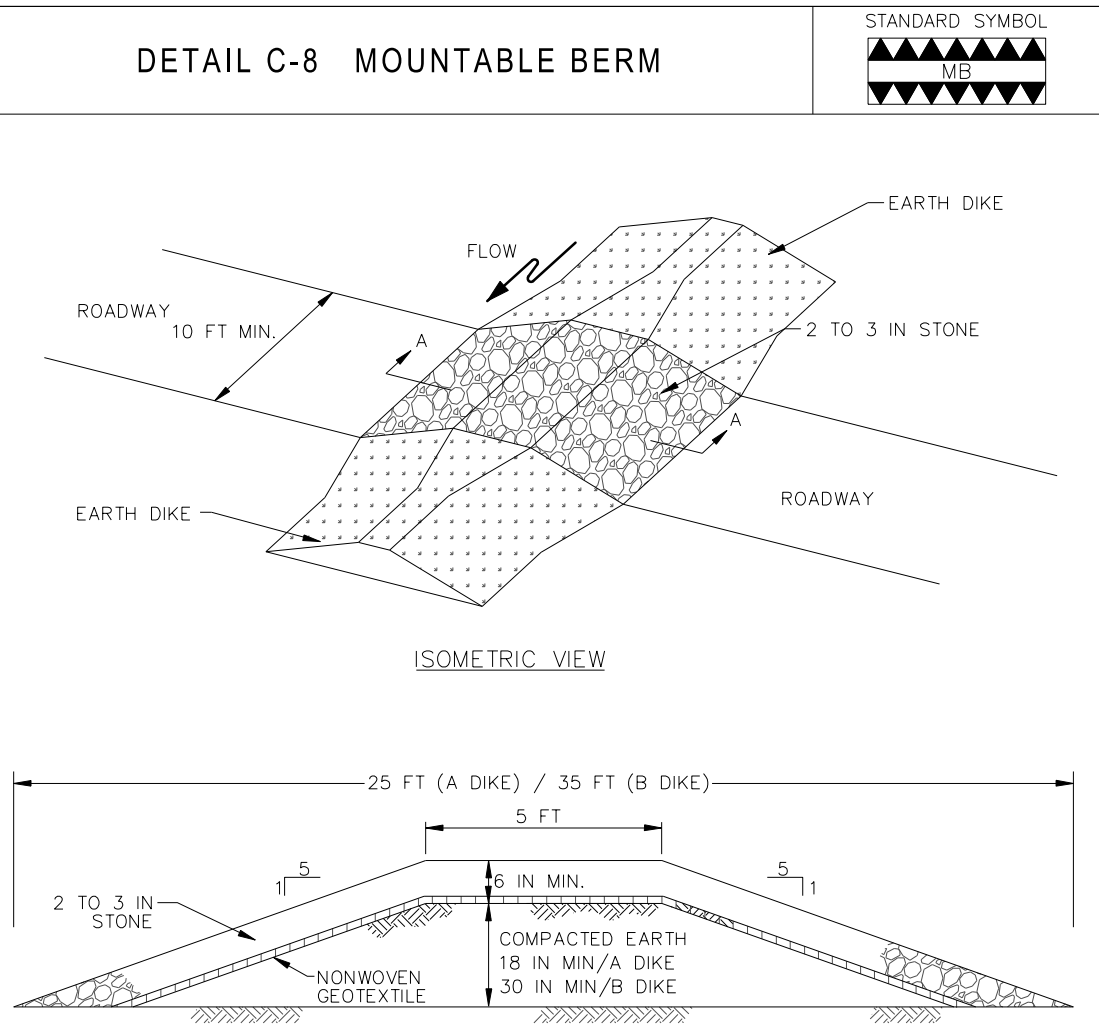
- CONSTRUCTION SPECIFICATIONS**
- USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2 3/4 INCH MAXIMUM OPENING).
 - USE 2 3/4 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
 - FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
 - SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
 - EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
 - WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
 - KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN, IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



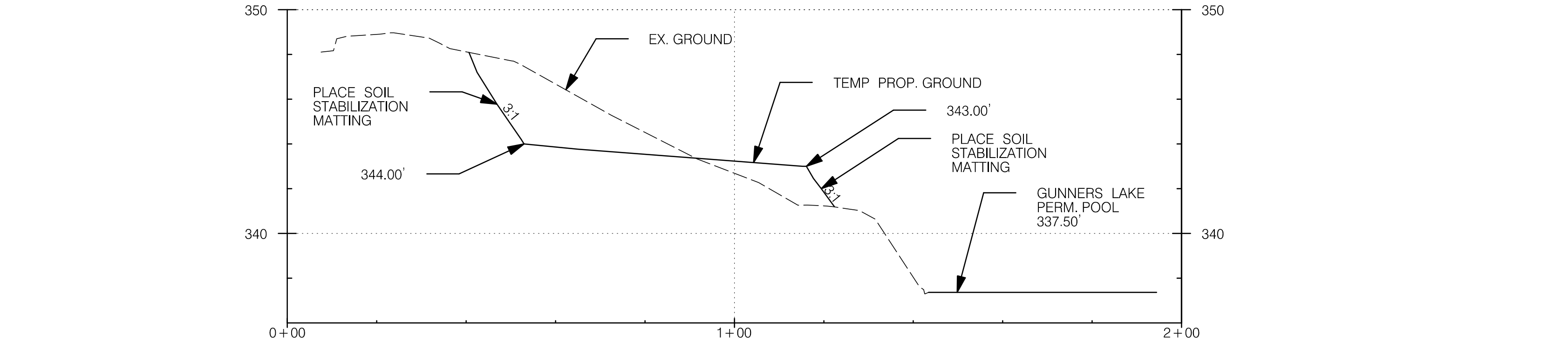
- CONSTRUCTION SPECIFICATIONS**
- USE A WASH RACK DESIGNED AND CONSTRUCTED/MANUFACTURED FOR THE ANTICIPATED TRAFFIC LOADS. CONCRETE, STEEL, OR OTHER MATERIALS ARE ACCEPTABLE. PRE-FABRICATED UNITS SUCH AS CATTLE GUARDS ARE ACCEPTABLE. USE MINIMUM DIMENSION OF 6 FEET X 10 FEET. ORIENT DIRECTION OF RIBS AS SHOWN ON THE DETAIL.
 - INSTALL PRIOR TO, ALONG SIDE OF, OR AS PART OF THE SCE.
 - DIRECT WASH WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE.
 - KEEP AREA UNDER WASH RACK FREE OF ACCUMULATED SEDIMENT. IF DAMAGED, REPAIR OR REPLACE WASH RACK.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



- CONSTRUCTION SPECIFICATIONS**
- USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
 - PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE EARTH MOUND PRIOR TO PLACING STONE.
 - PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
 - MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL			
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	



TREE CANOPY REQUIREMENTS TABLE	
TO BE COMPLETED BY THE CONSULTANT AND PLACED ON THE FIRST SHEET OF THE SEDIMENT CONTROL / STORMWATER MANAGEMENT PLAN SET FOR ALL PROJECTS.	
Exempt: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If exempt under Section 55-5 of the Code, please list the applicable exemption category below this table	
Total Property Area	Total Disturbed Area
_____ Square Feet	_____ Square Feet
Shade Trees Required	*Shade Trees Proposed
_____	_____
Fee in Lieu (Trees Required-Trees Proposed) x \$250	
\$ _____	
Required Number of Shade Trees	
Area (sq. ft.) of Limits of Disturbance	Number of Shade Trees Required
FROM TO	
1 6,000	3
6,001 8,000	6
8,001 12,000	9
12,001 14,000	12
14,001 40,000	15
If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula:	
(Number of Square Feet in Limits of Disturbance/40,000) x 15	
*Please list the square footage of each proposed planting area on the first sheet of the plan set	

MONTGOMERY CO. DEPARTMENT OF ENVIRONMENTAL PROTECTION APPROVED FOR:			THIS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT		
Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements:			
Reviewed _____ Date _____	Reviewed _____ Date _____	Reviewed _____ Date _____			
Approved _____ Date _____	Approved _____ Date _____	Approved _____ Date _____			
OWNER/CONTACT/ADDRESS					
DEPARTMENT OF ENVIRONMENTAL PROTECTION MR. WILLIAM WHELAN 255 ROCKVILLE PIKE, STE 120 ROCKVILLE, MD 20850-4166 240-777-7727					
S.W.F. NO. _____					

EROSION AND SEDIMENT CONTROL DETAILS

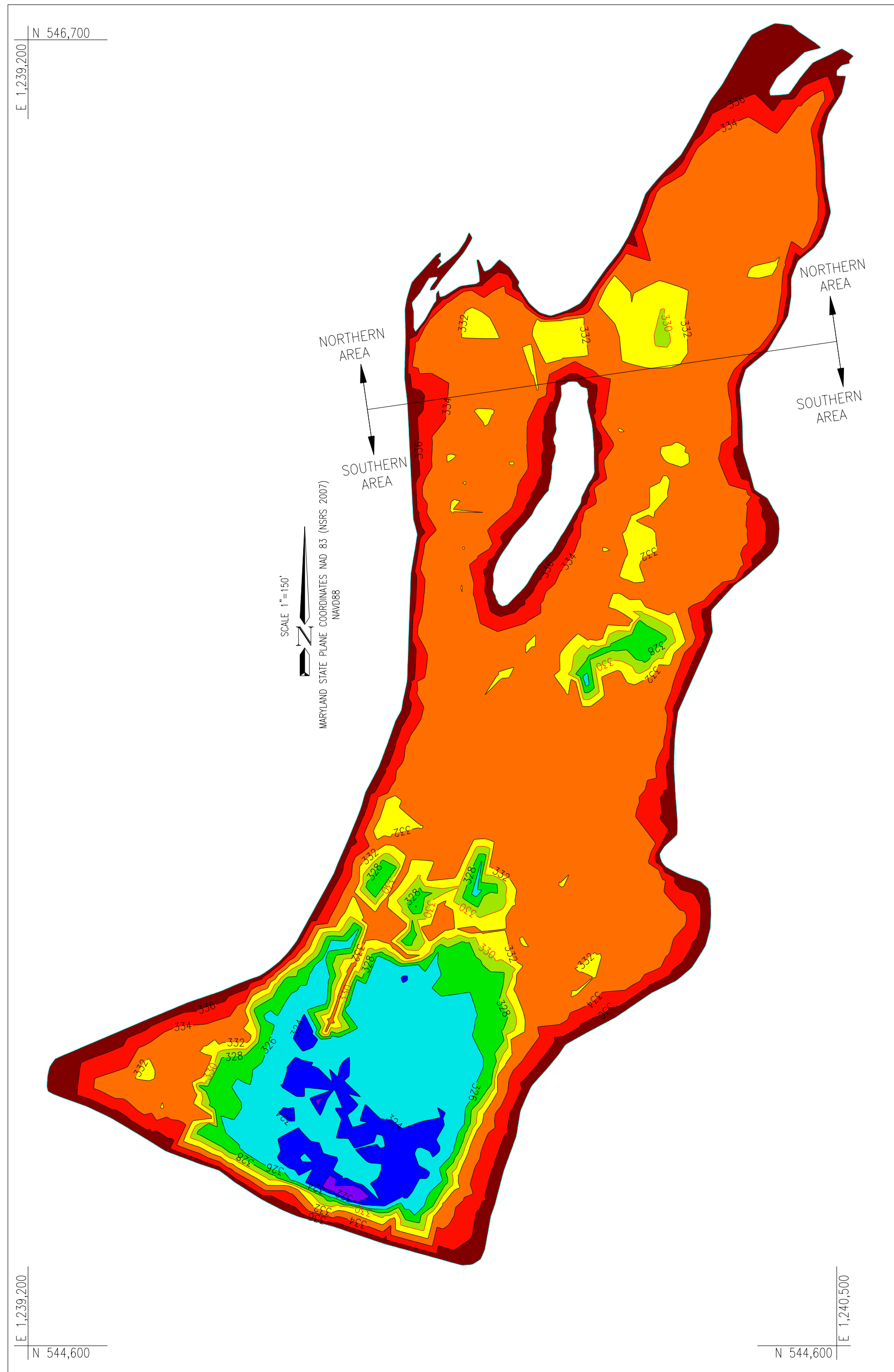
GUNNERS LAKE

GAITHERSBURG (8th) ELECTION DISTRICT

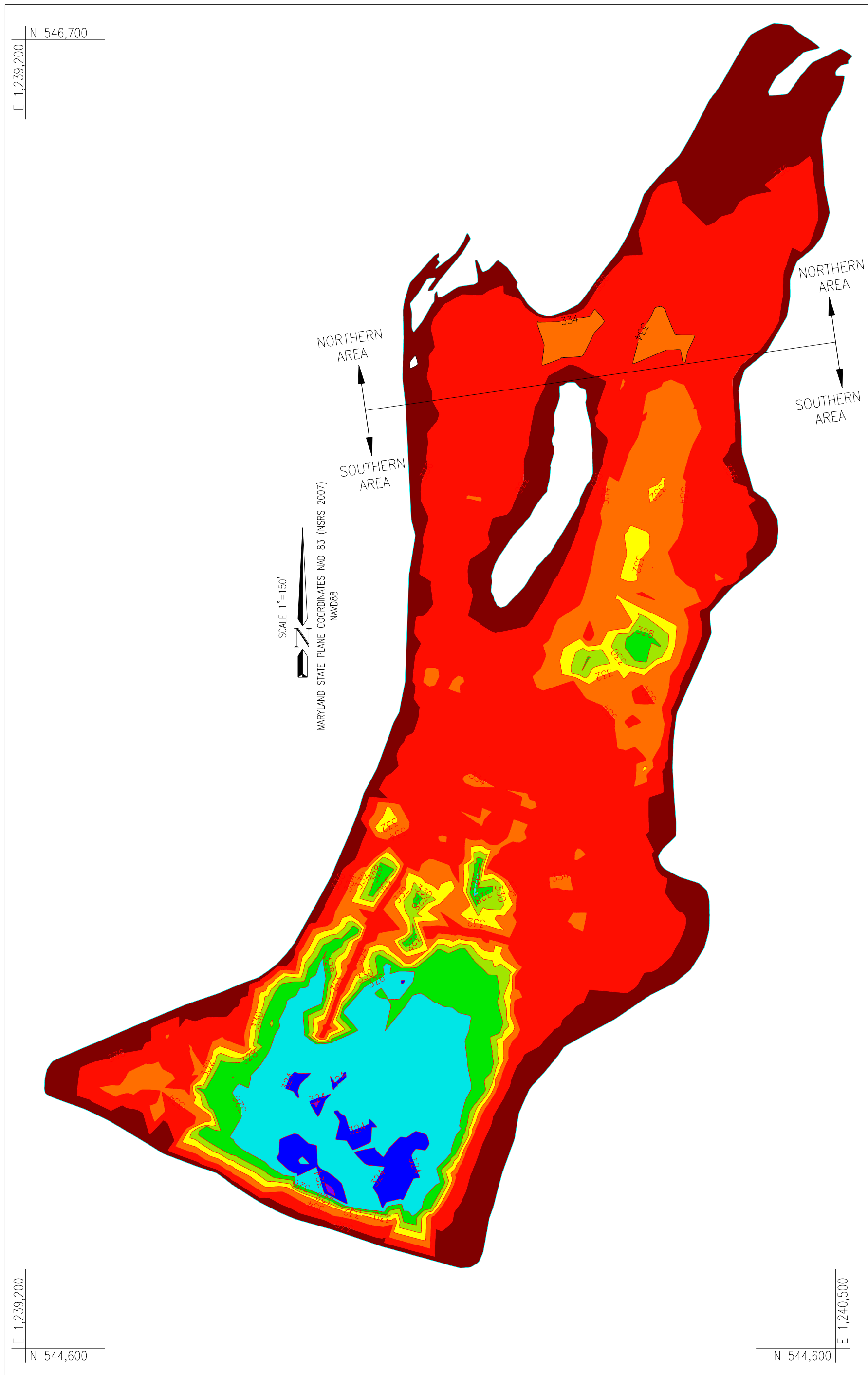
GUNNERS LAKE VILLAGE SUBDIVISION

MONTGOMERY COUNTY, MARYLAND

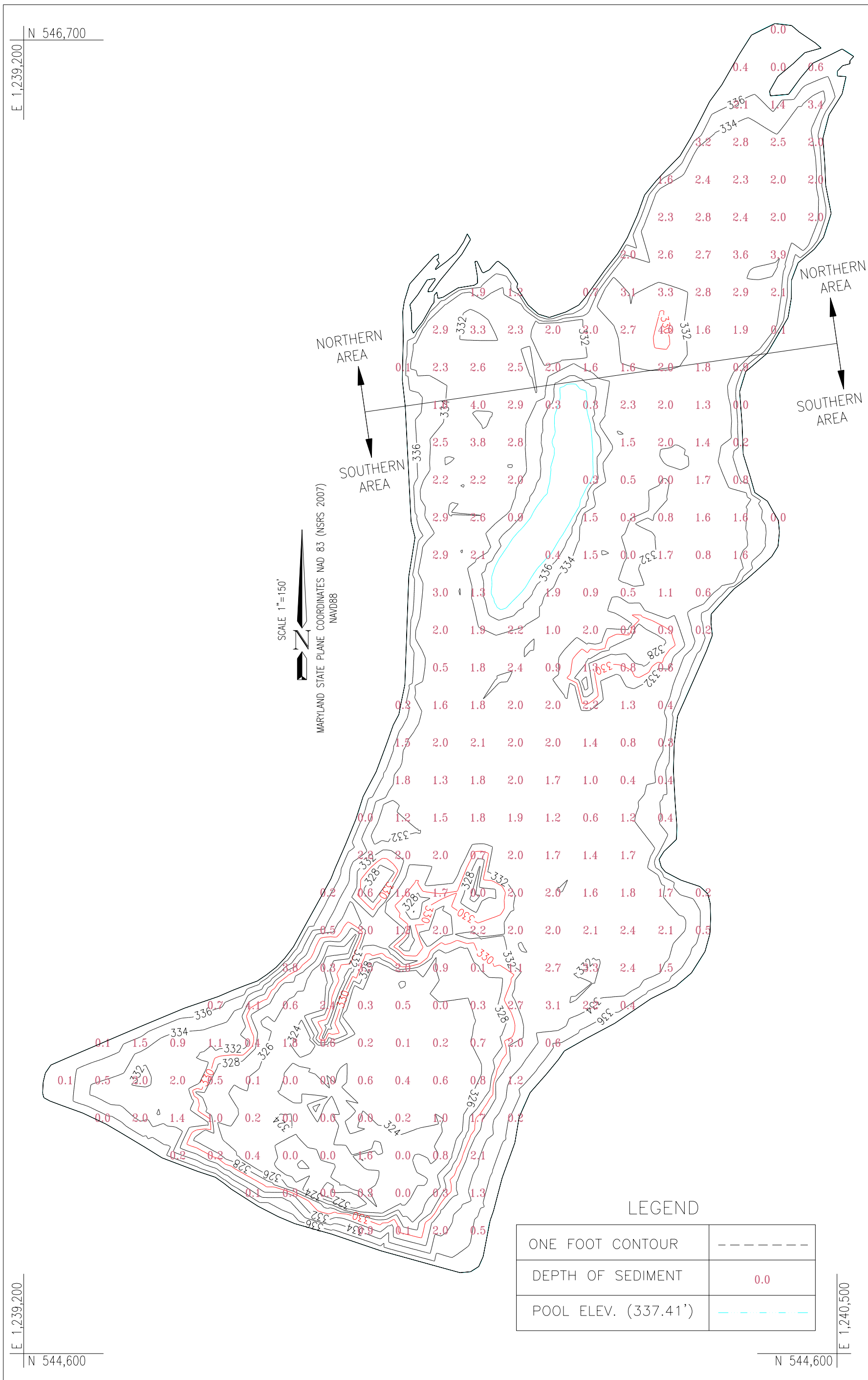
CLIENT: MONTGOMERY COUNTY DEPT OF ENVIRONMENTAL PROTECTION
255 ROCKVILLE PIKE, RM. 120
ROCKVILLE, MD 20850-4166
MR. WILLIAM WHELAN
(240) 777-7727



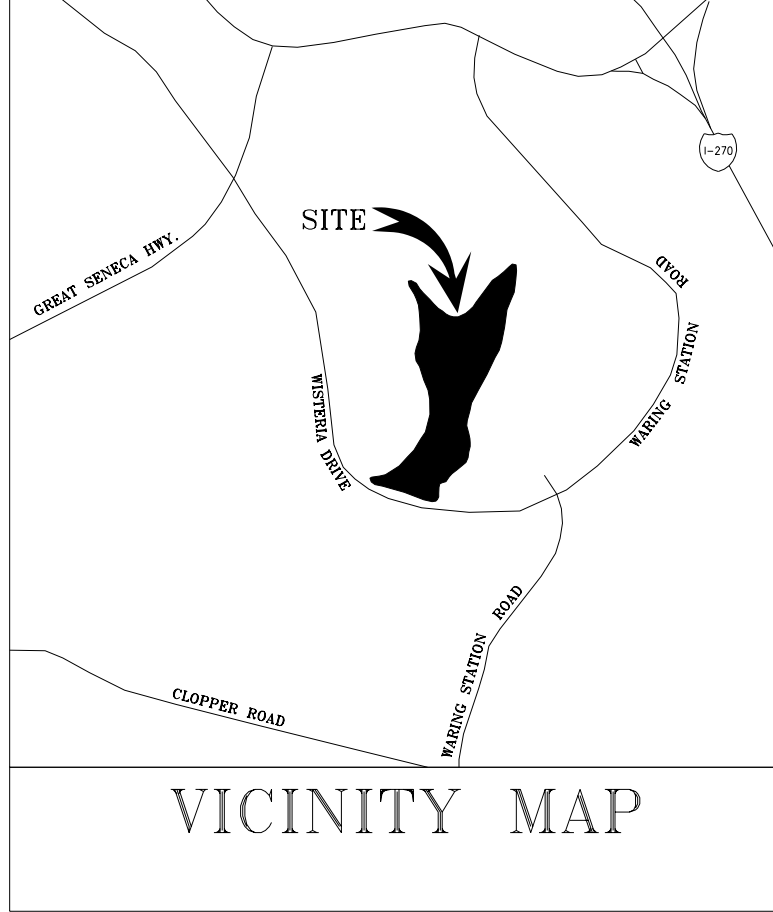
BOTTOM OF LAKE



TOP OF SEDIMENT



DEPTH OF SEDIMENT



VICINITY MAP

LEGEND

WATER DEPTH RANGE	ELEVATION RANGE	COLOR
0'-1.41'	337.41'-336'	
1.41'-3.41'	336'-334'	
3.41'-5.41'	334'-332'	
5.41'-7.41'	332'-330'	
7.41'-9.41'	330'-328'	
9.41'-11.41'	328'-326'	
11.41'-13.41'	326'-324'	
13.41'-15.41'	324'-322'	
15.41'-16.40'	330'-321.01'	

WATER SURFACE ELEVATION (WSEL) = 337.41'

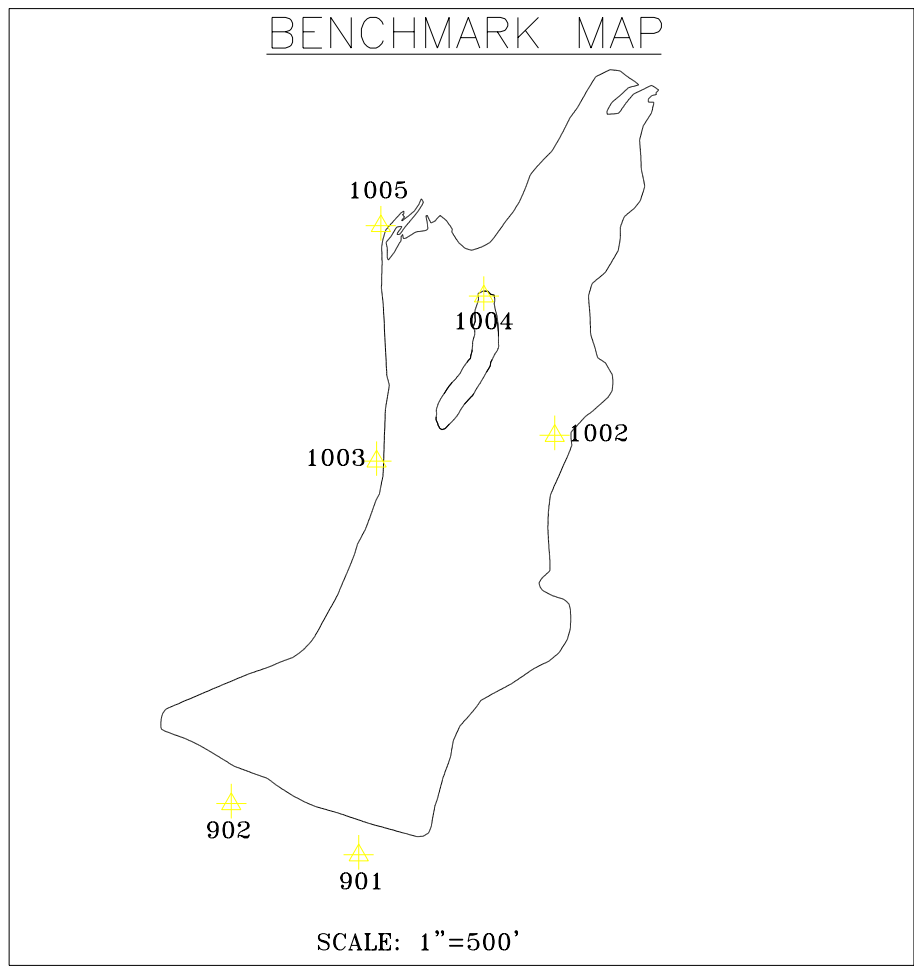
SHEET INDEX

SHEET NO.	SHEET TITLE
1	OVERALL
2	SOUTHERN AREA
3	NORTHERN AREA
4	OVERALL SEDIMENT DEPTH

ELEVATION - STORAGE TABLE BOTTOM OF LAKE TO WSEL									
ELEVATION Feet	PLAN Sq. Inch	AREA SF	AV. AREA SF	DIE. ELV. Feet	STORAGE Cubic Ft.	TOTAL STORAGE Cubic Ft.	TOTAL STORAGE Acre-Ft.	ELEVATION Feet	
321.00	0.00	0.00	0.00	0.00	0.00	0	0.0000	321.01	
322.00	1,290.00	1,290.00	645.00	0.99	638.95	639	0.0147	322.00	
324.00	28,408.00	28,408.00	14,849.00	2.00	29,698.00	30,337	0.6964	324.00	
326.00	114,781.00	114,781.00	71,994.50	2.00	143,189.00	175,526	3.9836	326.00	
328.00	155,382.00	155,382.00	135,086.50	2.00	270,173.00	445,699	10.1859	328.00	
330.00	186,985.00	186,985.00	171,188.50	2.00	342,377.00	786,076	18.0458	330.00	
332.00	262,235.00	262,235.00	224,610.00	2.00	440,230.00	1,235,296	28.3585	332.00	
334.00	742,083.00	742,083.00	502,159.00	2.00	1,004,318.00	2,259,614	51.4145	334.00	
336.00	948,443.00	948,443.00	795,263.00	2.00	1,590,526.00	3,850,140	87.9079	336.00	
337.41	938,016.00	938,016.00	893,229.50	1.41	1,259,453.60	5,089,593	116.8410	337.41	

ELEVATION - STORAGE TABLE TOP OF SEDIMENT TO WSEL									
ELEVATION Feet	PLAN Sq. Inch	AREA SF	AV. AREA SF	DIE. ELV. Feet	STORAGE Cubic Ft.	TOTAL STORAGE Cubic Ft.	TOTAL STORAGE Acre-Ft.	ELEVATION Feet	
321.11	0.00	0.00	0.00	0.00	0.00	0	0.0000	321.11	
322.00	153.00	153.00	76.50	0.89	68.08	68	0.0016	322.00	
324.00	14,045.00	14,045.00	7,099.00	2.00	14,195.00	14,266	0.3275	324.00	
326.00	101,228.00	101,228.00	57,654.50	2.00	115,273.00	129,538	2.9758	326.00	
328.00	142,438.00	142,438.00	121,833.00	2.00	243,666.00	373,205	8.5676	328.00	
330.00	167,818.00	167,818.00	155,128.00	2.00	310,256.00	683,461	15.6901	330.00	
332.00	201,675.00	201,675.00	184,694.50	2.00	360,389.00	1,042,850	24.1701	332.00	
334.00	316,940.00	316,940.00	259,243.50	2.00	518,473.00	1,571,323	36.0736	334.00	
336.00	746,223.00	746,223.00	531,561.50	2.00	1,063,123.00	2,634,444	60.4785	336.00	
337.41	938,016.00	938,016.00	842,119.50	1.41	1,187,388.50	3,821,833	87.7372	337.41	

LOSS OF TOTAL STORAGE (VOLUME) TABLE					
ELEVATION Feet	Design Volume in Pond CF	Ex. Volume in Pond CF	Loss CF	Loss %	
321.00	0	0	0.00	0.00%	
322.00	639	68	570.47	89.34%	
324.00	30,337	14,266	16,070.47	52.97%	
326.00	175,526	129,538	45,986.47	25.95%	
328.00	445,699	373,205	70,493.47	15.89%	
330.00	786,076	683,461	102,614.47	13.05%	
332.00	1,235,296	1,052,850	182,445.47	14.77%	
334.00	2,259,614	1,571,323	688,292.47	29.84%	
336.00	3,850,140	2,634,444	1,195,695.47	31.22%	
337.41	5,089,593	3,821,833	1,267,760.57	24.91%	



BENCH MARK TABLE

BM.#	NORTHING	EASTING	ELEVATION	
901	N:544682.07	E:1239745.00	ELEV:353.49	RE-BAR & CAP SET
902	N:544815.39	E:1239413.49	ELEV:353.08	RE-BAR & CAP SET
1002	N:545774.42	E:1240255.31	ELEV:340.38	SCREW IN DOCK
1003	N:545707.54	E:1239791.56	ELEV:339.49	PK NAIL SET IN PATH
1004	N:546137.34	N:1240071.18	ELEV:338.04	RE-BAR & CAP SET
1005	N:546320.39	N:1239802.60	ELEV:341.61	PK NAIL SET IN PATH

Gunnery Lake Bathymetric Survey

Purpose

Charles P. Johnson & Associates, Inc. (CPJ) was requested to complete a bathymetric survey of Gunnery Lake located in Germantown, Maryland in order to determine the quantity of water in the lake and determine the quantity of sediment in the lake.

Data Acquisition

Due to the large size of the survey area, CPJ used a dual frequency sonar transducer device by Odom Hydrographic Systems augmented with HYPACK data processing software to complete the bathymetric survey for the southern area of the lake defined as south of the north end on the island. Due to the shallow depth of water in the northern area of the lake, CPJ used conventional measurement techniques for the depth of water and depth of sediment. In these shallow areas CPJ also used a GeoXH portable GPS data collection device by Trimble with elevation data collected using a standard survey range pole. All measurements were collected and are displayed in the Maryland State Plane Coordinates NAD 83 /NSRS 2007 horizontal datum and NAVD 1988 vertical datum established using GPS methods and using NGS CORS network.

Topographic information was collected by the transducer at regular intervals over the extent of the survey area. At each survey location, two elevations were recorded: one elevation reflecting the elevation of the top of sediment layer and one elevation reflecting the bottom of the lake (beneath the sediment layer). In addition, survey information was collected for the location and elevation of the edge of water.

Bathymetric Analysis

After the bathymetric survey data was post-processed using the HYPACK software to remove any anomalies, the data was input into Land Desktop, a software add-on to Autodesk's AutoCAD 2009 program. Two surfaces were generated: one reflecting the topography of the top of sediment and one reflecting the topography of the bottom of the lake. Using Land Desktop, the two surfaces were compared. Their volumetric difference represents the volume of sediment that is in the lake. Topographic contours were generated from the collected survey information using Land Desktop. These contours were produced on two (2) foot intervals and an elevation versus storage table was computed for both surfaces. A comparison of the two tables shows that sedimentation of the pond has caused an approximate 25% loss in storage or approximately 47,000 CY of sediment. This confirmed the results of the surface comparison.

Survey Exhibits

After completing post-processing of all survey data and computing the sedimentation values in the basin, CPJ prepared exhibits showing topography, water depths (via color chart), and sedimentation depths in the lake.

PROFESSIONAL CERTIFICATION	
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.	
LICENSE NUMBER:	32457
EXPIRATION DATE:	06-20-2014

OVERALL BATHYMETRIC SURVEY GUNNERS LAKE GERMANTOWN (2nd) ELECTION DISTRICT MONTGOMERY COUNTY, MARYLAND

CPJ Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
1751 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394
www.cpja.com • Silver Spring, MD • Gaithersburg, MD • Frederick, MD • Fairfax, VA

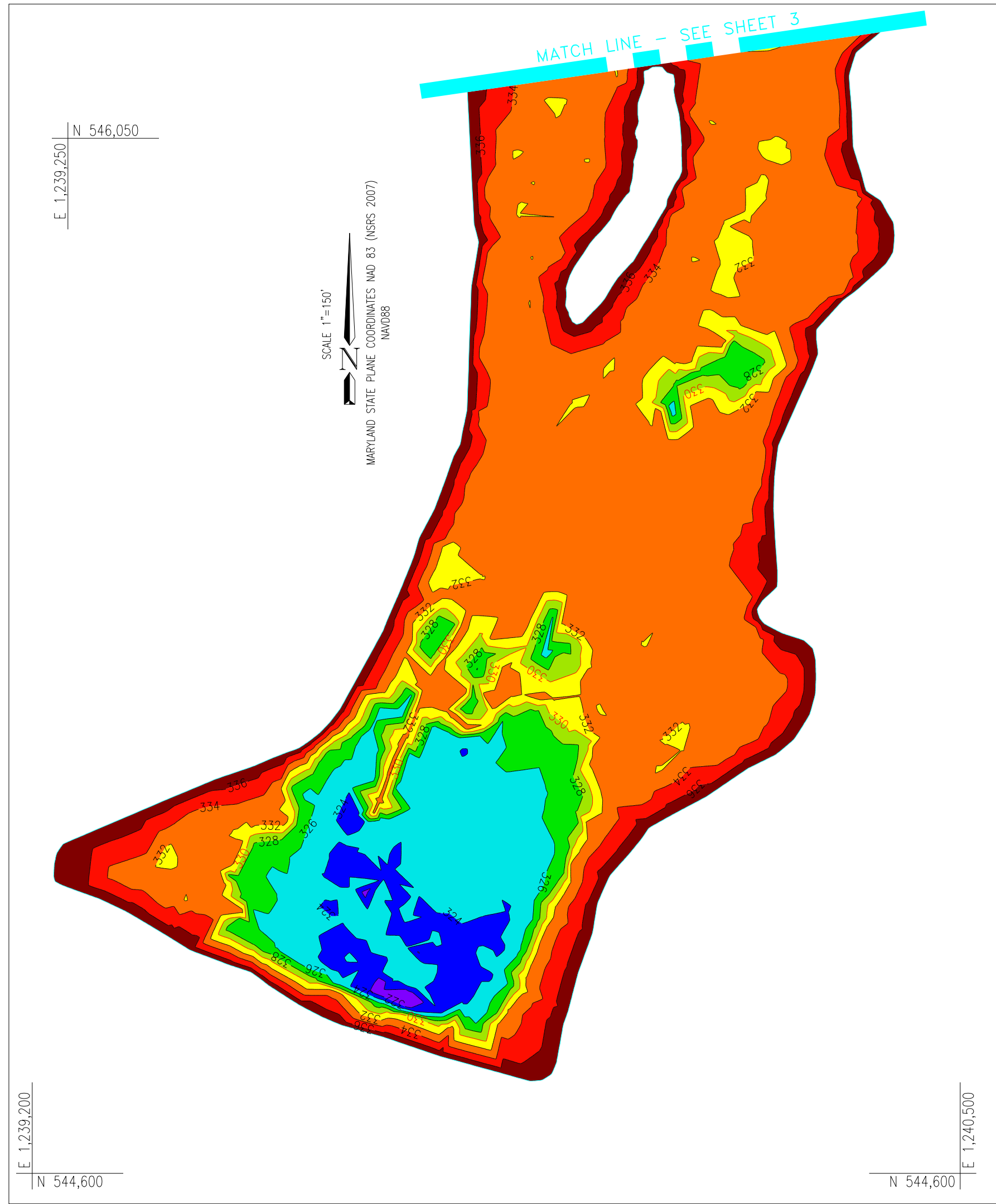
CLIENT : Montgomery County Dept. of Environmental Protection 255 Rockville Pike, Suite 120 Rockville, MD 20850 Telephone: (240) 777-7760 Contact: Gene Gopenko	PRELIMINARY PLAN NO. N/A		SITE PLAN NO. N/A	
	DESIGN	ADG	SHEET	OF
	DRAFT	ADG	14	18
	DATE	NOV. 2012	FILE NO.:	35-575-30.4

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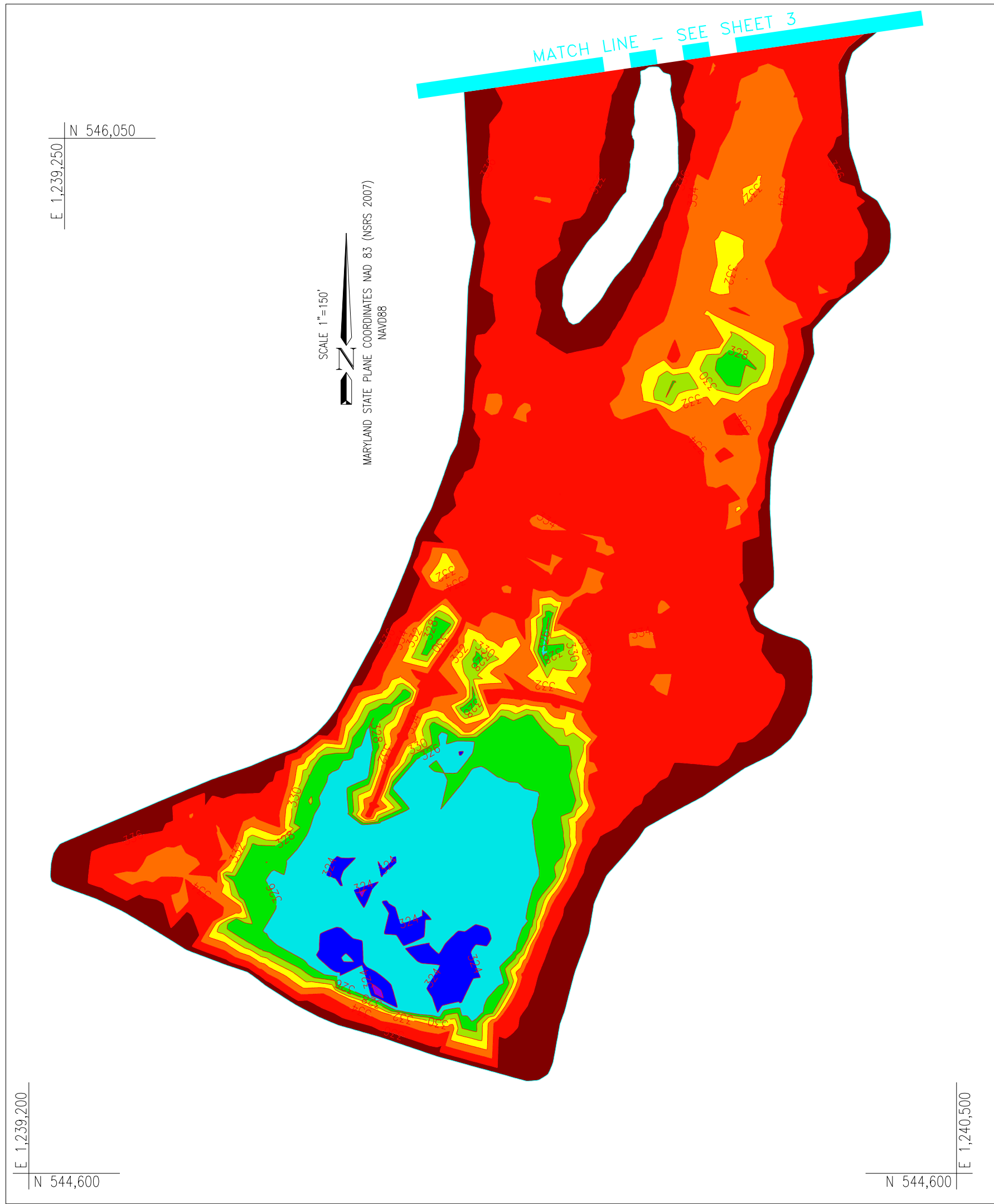
UPDATES/REVISIONS :
1. REVISION TO INCLUDE SHEET 4 WITH SEDIMENT DEPTH AND SHEET INDEX
ON SHEET 1 - 11/17/2012 - AG

Johns

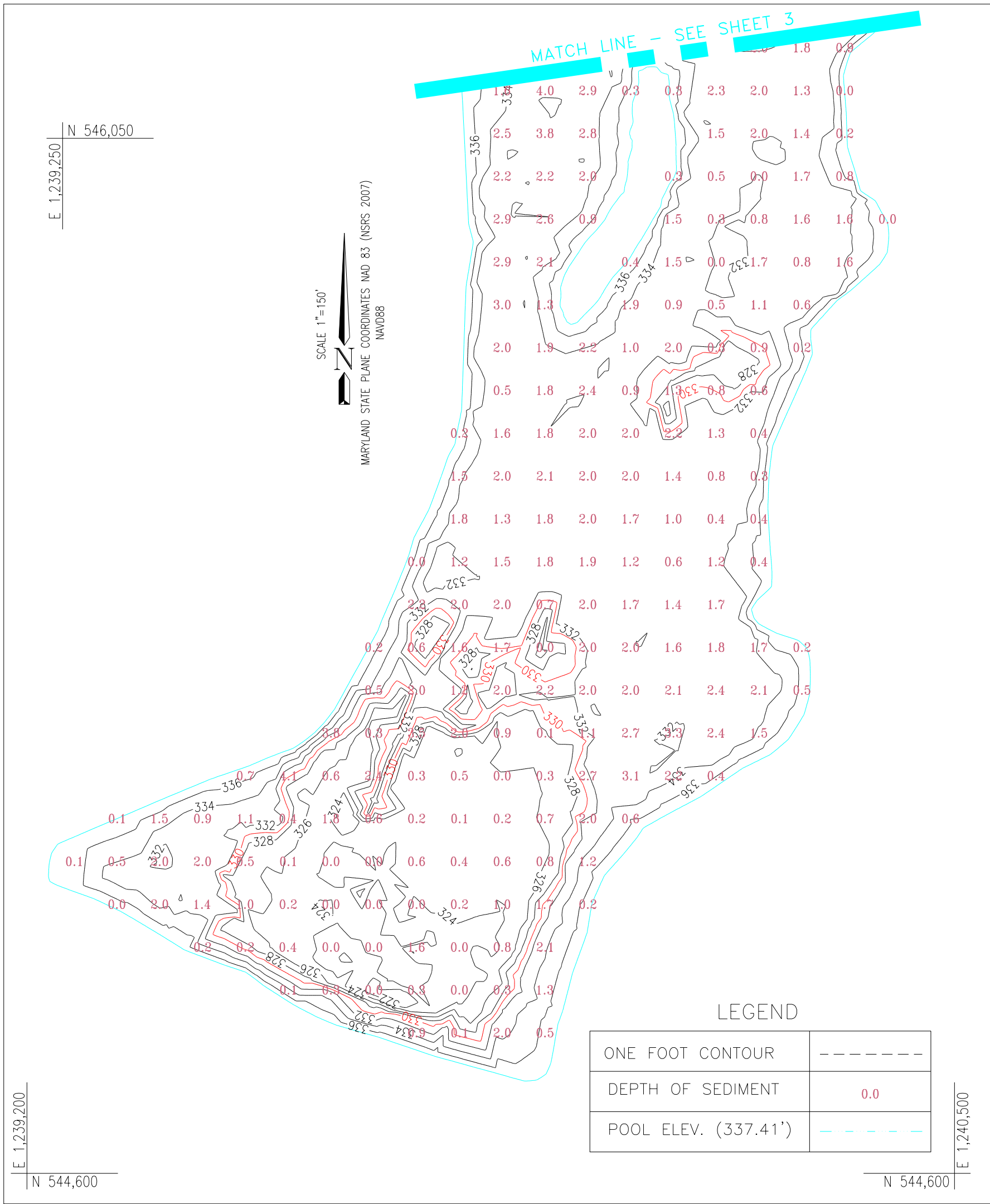
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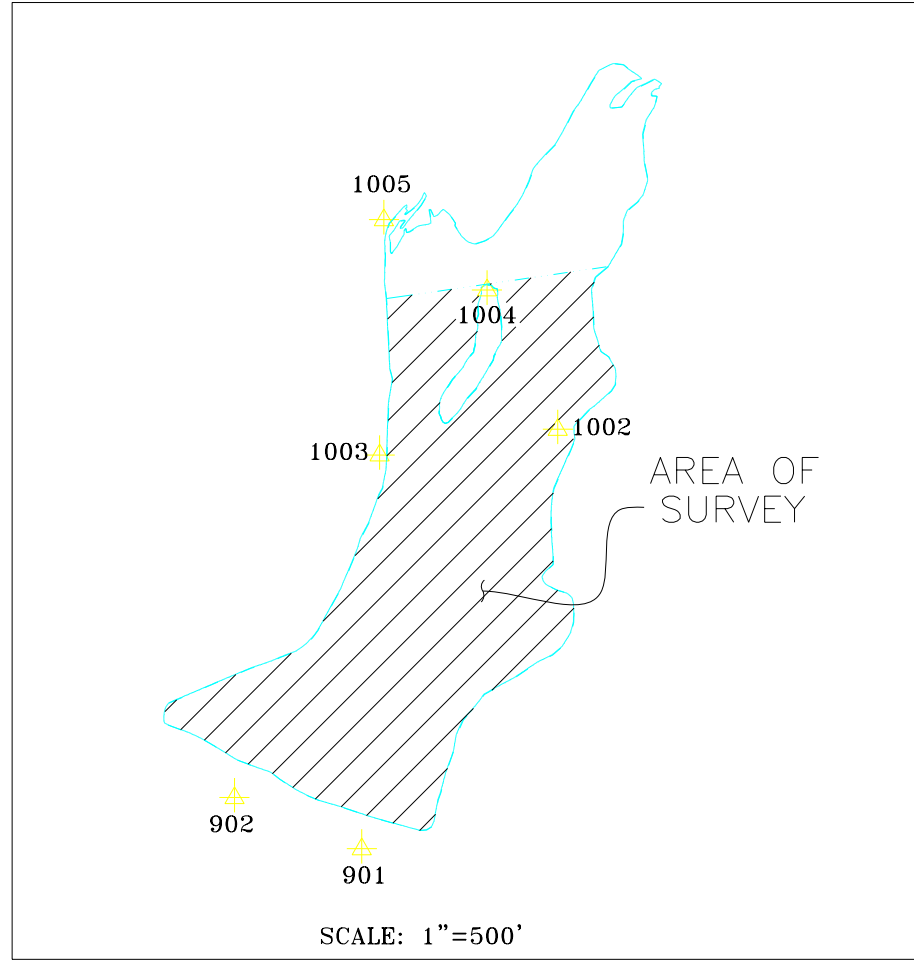
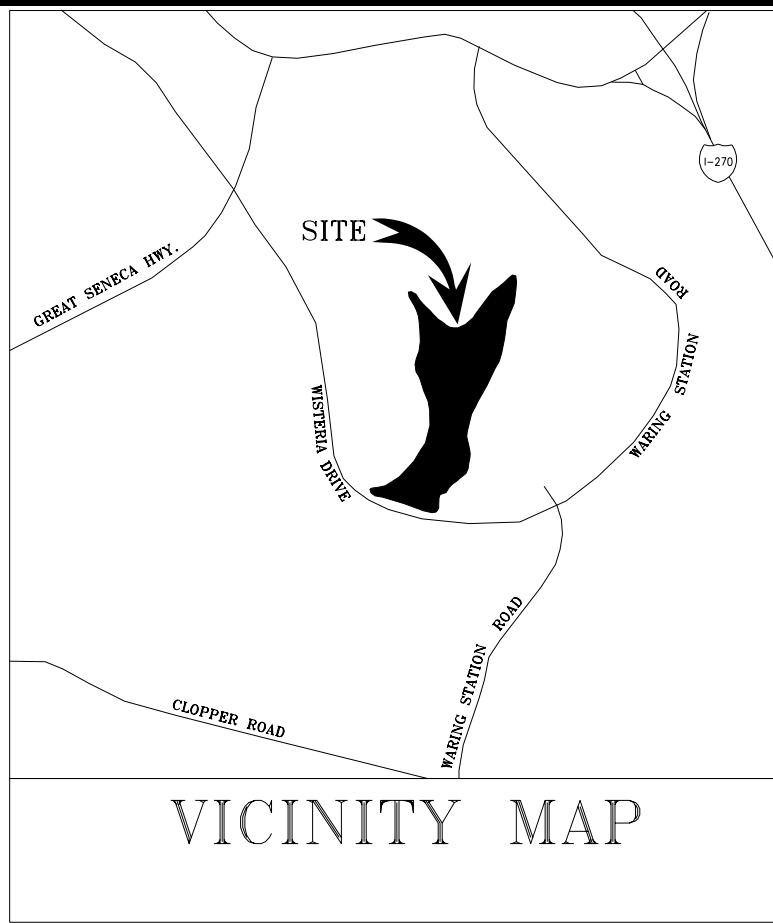
BOTTOM OF LAKE



TOP OF SEDIMENT



DEPTH OF SEDIMENT



LEGEND		
WATER DEPTH RANGE	ELEVATION RANGE	COLOR
0'-1.41'	337.41'-336'	
1.41'-3.41'	336'-334'	
3.41'-5.41'	334'-332'	
5.41'-7.41'	332'-330'	
7.41'-9.41'	330'-328'	
9.41'-11.41'	328'-326'	
11.41'-13.41'	326'-324'	
13.41'-15.41'	324'-322'	
15.41'-16.40'	330'-321.01'	

WATER SURFACE ELEVATION (WSEL) = 337.41'

PROFESSIONAL CERTIFICATION	
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.	
LICENSE NUMBER:	32457
EXPIRATION DATE:	06-20-2014

ELEVATION - STORAGE TABLE BOTTOM OF LAKE TO WSEL								
ELEVATION Feet	PLAN Sq. Inch	AREA SF	AV. AREA SF	DIF. ELEV. Feet	STORAGE Cubic Ft.	TOTAL STORAGE Cubic Ft.	TOTAL STORAGE Acres-Ft.	ELEVATION Feet
321.01	0.00	0.00	0.00	0.00	0.00	0	0.0000	321.01
322.00	1,290.00	1,290.00	645.00	0.99	638.55	639	0.0147	322.00
324.00	28,408.00	28,408.00	14,849.00	2.00	29,698.00	30,337	0.6964	324.00
326.00	114,781.00	114,781.00	71,994.50	2.00	143,189.00	173,526	3.9836	326.00
328.00	155,892.00	155,892.00	125,086.50	2.00	270,173.00	443,699	10.1859	328.00
330.00	185,922.00	185,922.00	170,657.00	2.00	341,314.00	785,013	18.0234	330.00
332.00	238,631.00	238,631.00	212,276.50	2.00	424,553.00	1,209,566	27.7678	332.00
334.00	608,287.00	608,287.00	423,459.00	2.00	846,918.00	2,056,484	47.2104	334.00
336.00	693,106.00	693,106.00	650,696.50	2.00	1,301,393.00	3,357,877	77.0862	336.00
337.41	754,678.00	754,678.00	723,892.00	1.41	1,020,687.72	4,378,564	100.5180	337.41

ELEVATION - STORAGE TABLE TOP OF SEDIMENT TO WSEL								
ELEVATION Feet	PLAN Sq. Inch	AREA SF	AV. AREA SF	DIF. ELEV. Feet	STORAGE Cubic Ft.	TOTAL STORAGE Cubic Ft.	TOTAL STORAGE Acres-Ft.	ELEVATION Feet
321.01	0.00	0.00	0.00	0.00	0.00	0	0.0000	321.01
322.00	153.00	153.00	76.50	0.99	68.08	69	0.0016	322.00
324.00	14,045.00	14,045.00	7,099.00	2.00	14,198.00	14,266	0.3275	324.00
326.00	101,228.00	101,228.00	57,636.50	2.00	115,273.00	129,539	2.9758	326.00
328.00	144,488.00	144,488.00	121,833.00	2.00	243,686.00	373,205	8.5676	328.00
330.00	167,818.00	167,818.00	155,128.00	2.00	310,266.00	683,461	15.6901	330.00
332.00	201,571.00	201,571.00	184,694.50	2.00	369,389.00	1,052,850	24.1701	332.00
334.00	307,381.00	307,381.00	254,476.00	2.00	508,952.00	1,561,802	35.8540	334.00
336.00	634,829.00	634,829.00	471,105.00	2.00	942,210.00	2,504,012	57.4842	336.00
337.41	754,678.00	754,678.00	694,753.50	1.41	979,602.44	3,483,615	79.9728	337.41

LOSS OF TOTAL STORAGE (VOLUME) TABLE				
ELEVATION Feet	Design Volume in Pond CF	Ex. Volume in Pond CF	Loss CF	Loss %
321.01	0	0	0	0.00%
322.00	639	681	570.47	89.34%
324.00	30,337	14,266	16,070.47	52.97%
326.00	173,526	129,539	43,986.47	25.35%
328.00	443,699	273,205	70,493.47	15.89%
330.00	785,013	683,461	101,551.47	12.94%
332.00	1,209,566	1,052,850	156,715.47	12.96%
334.00	2,056,484	1,561,802	494,681.47	24.05%
336.00	3,357,877	2,504,012	853,864.47	25.43%
337.41	4,378,564	3,483,615	894,949.75	20.44%

Southern Area of Gunners Lake Bathymetric Survey

Purpose

Charles P. Johnson & Associates, Inc. (CPJ) was requested to complete a bathymetric survey of the lower reaches (approximately 17.3 acres) of Gunners Lake located in Germantown, Maryland in order to determine the quantity of water in the lake and determine the quantity of sediment in the lake.

Data Acquisition

Due to the large size of the survey area, CPJ used a dual frequency sonar transducer device by Odom Hydrographic Systems augmented with HYPACK data processing software to complete the bathymetric survey for the southern area of the lake defined as south of the north end of the island. All measurements were collected and are displayed in the Maryland State Plane Coordinates NAD 83 /NSRS 2007 horizontal datum and NAVD 1988 vertical datum established using GPS methods and using NGS CORS network.

Topographic information was collected by the transducer at regular intervals over the extent of the survey area. At each survey location, two elevations were recorded: one elevation reflecting the elevation of the top of sediment layer and one elevation reflecting the bottom of the lake (beneath the sediment layer). In addition, survey information was collected for the location and elevation of the edge of water.

Bathymetric Analysis

After the bathymetric survey data was post-processed using the HYPACK software to remove any anomalies, the data was input into Land Desktop, a software add-on to Autodesk's AutoCAD 2009 program. Two surfaces were generated: one reflecting the topography of the top of sediment and one reflecting the topography of the bottom of the lake. Using Land Desktop, the two surfaces were compared. Their volumetric difference represents the volume of sediment that is in the lake. Topographic contours were generated from the collected survey information using Land Desktop. These contours were produced on two (2) foot intervals and an elevation versus storage table was computed for both surfaces. A comparison of the two tables shows that sedimentation of the pond has caused an approximate 20% loss in storage or approximately 33,200 CY of sediment. This confirmed the results of the surface comparison.

SOUTHERN AREA BATHYMETRIC SURVEY GUNNERS LAKE GERMANTOWN (2nd) ELECTION DISTRICT MONTGOMERY COUNTY, MARYLAND

CPJ Charles P. Johnson & Associates, Inc.
Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors
1751 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394
www.cpja.com • Silver Spring, MD • Gaithersburg, MD • Frederick, MD • Fairfax, VA

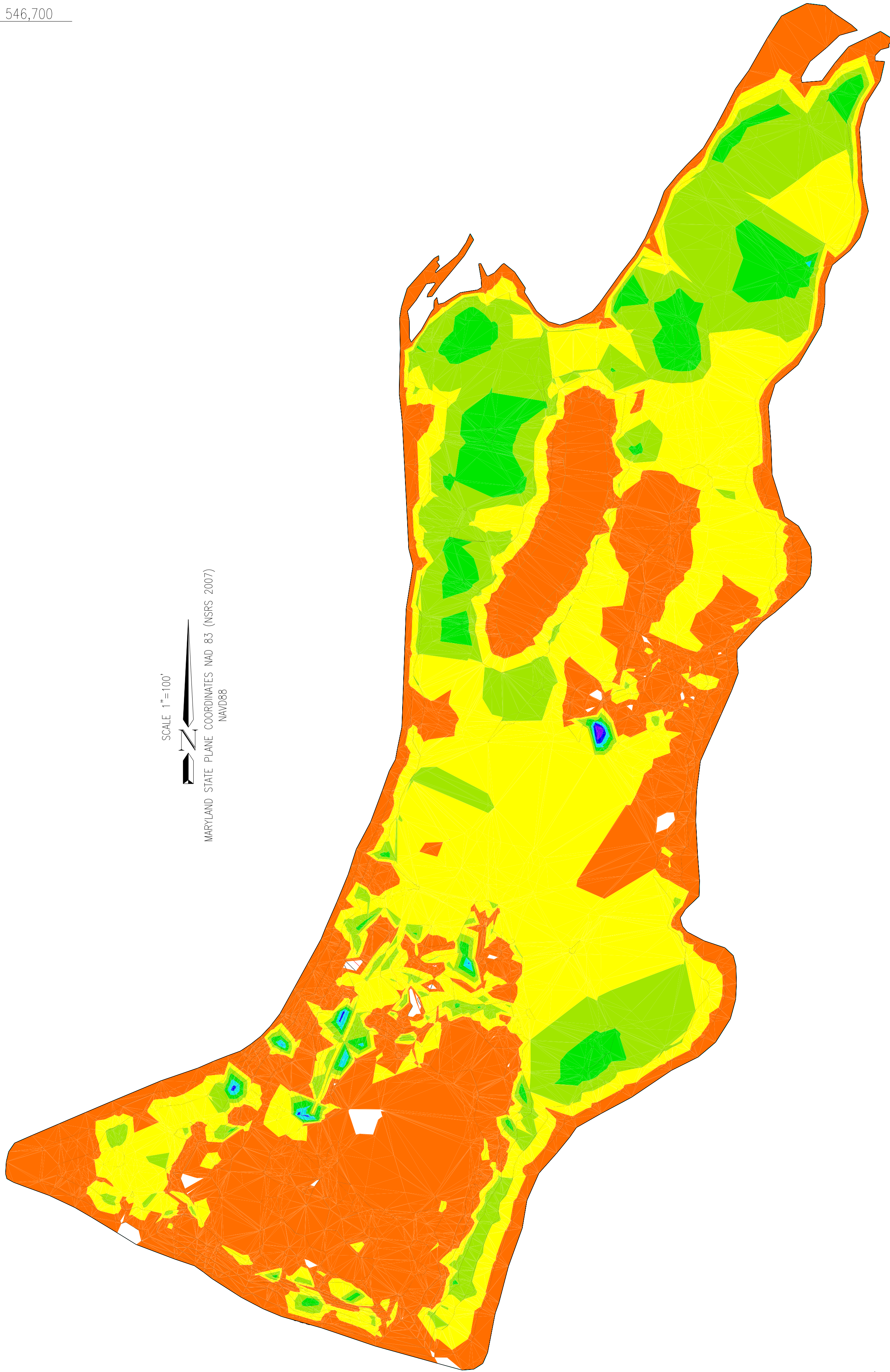
CLIENT : Montgomery County Dept. of Environmental Protection 255 Rockville Pike, Suite 120 Rockville, MD 20850 Telephone: (240) 777-7760 Contact: Gene Gopenko	PRELIMINARY PLAN NO. N/A		SITE PLAN NO. N/A	
	DESIGN	ADG	SHEET	OF
	DRAFT	ADG	15	18
	DATE	NOV. 2012	FILE NO. :	
COPYRIGHT © LATEST DATE HEREON CHARLES P. JOHNSON & ASSOCIATES, INC. ALL RIGHTS RESERVED. UNAUTHORIZED USE OR REPRODUCTION IS PROHIBITED.		SCALE	AS SHOWN	35-575-30.4

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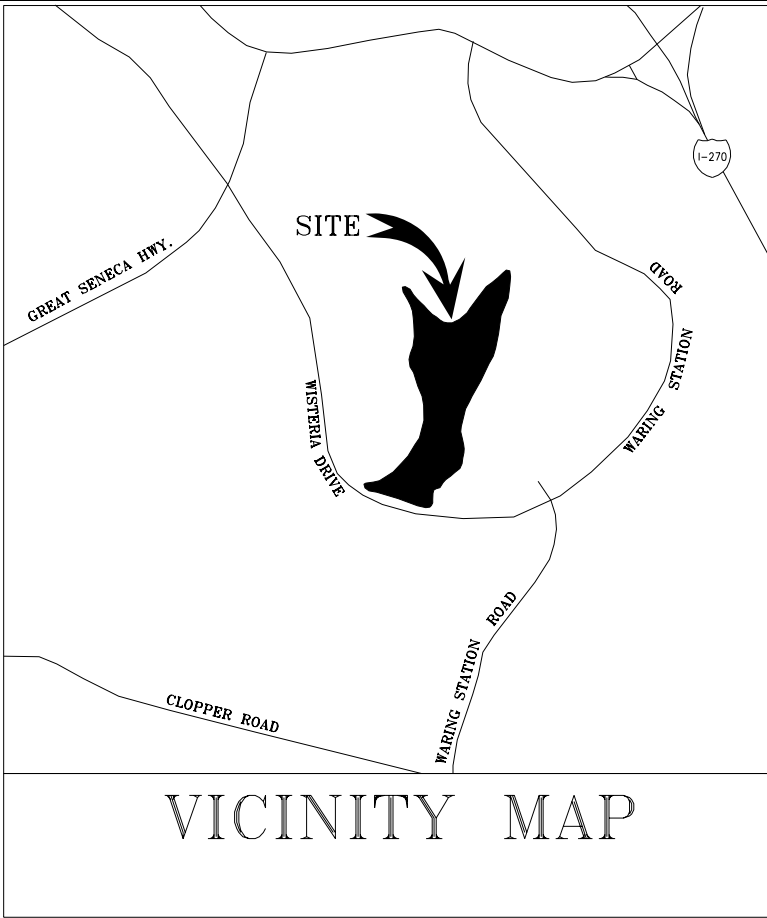
E 1,239,200 | N 544,600

N 544,600 | E 1,240,500

SCALE 1"=100'
N
MARYLAND STATE PLANE COORDINATES NAD 83 (NSRS 2007)
NAD83



DEPTH OF SEDIMENT



LEGEND		
SEDIMENT DEPTH RANGE	SEDIMENT DEPTH AREA (sf)	COLOR
0'-1'	382,905	Orange
1'-2'	347,848	Yellow
2'-3'	167,769	Light Green
3'-4'	54,040	Green
4'-5'	1,656	Cyan
5'-6'	360	Blue
6'-7'	140	Purple

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

LICENSE NUMBER: 32457

EXPIRATION DATE: 06-20-2014

OVERALL SEDIMENT DEPTH
BATHYMETRIC SURVEY
GUNNERS LAKE
GERMANTOWN (2nd) ELECTION DISTRICT
MONTGOMERY COUNTY, MARYLAND

CPIAssociates

Charles P. Johnson & Associates, Inc.

Civil and Environmental Engineers • Planners • Landscape Architects • Surveyors

1751 Elton Rd., Ste. 300 Silver Spring, MD 20903 301.434.7000 Fax: 301.434.9394

www.cpia.com • Silver Spring, MD • Gaithersburg, MD • Frederick, MD • Fairfax, VA

CLIENT : Montgomery County
Dept. of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, MD 20850
Telephone: (240) 777-7760
Contact: Gene Gopenko

PRELIMINARY PLAN NO:
N/A

DESIGN
ADG

DRAFT
ADG

DATE
NOV., 2012

SCALE
1"=100'

SITE PLAN NO:
N/A

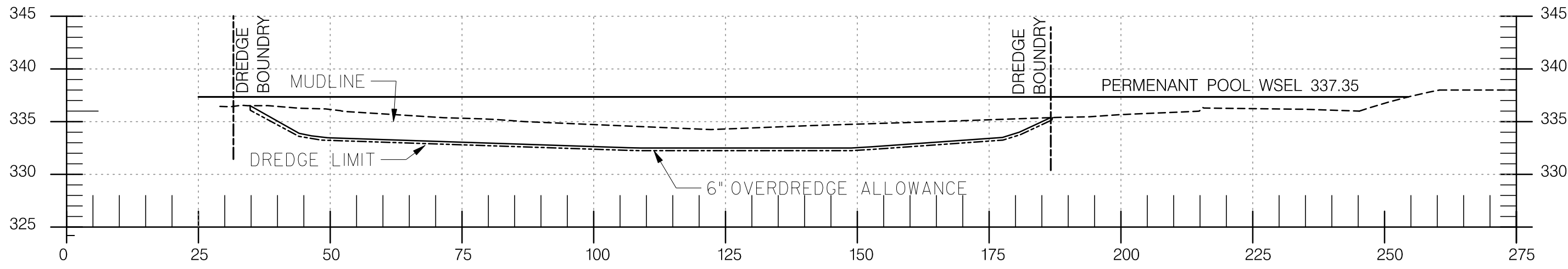
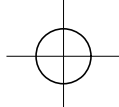
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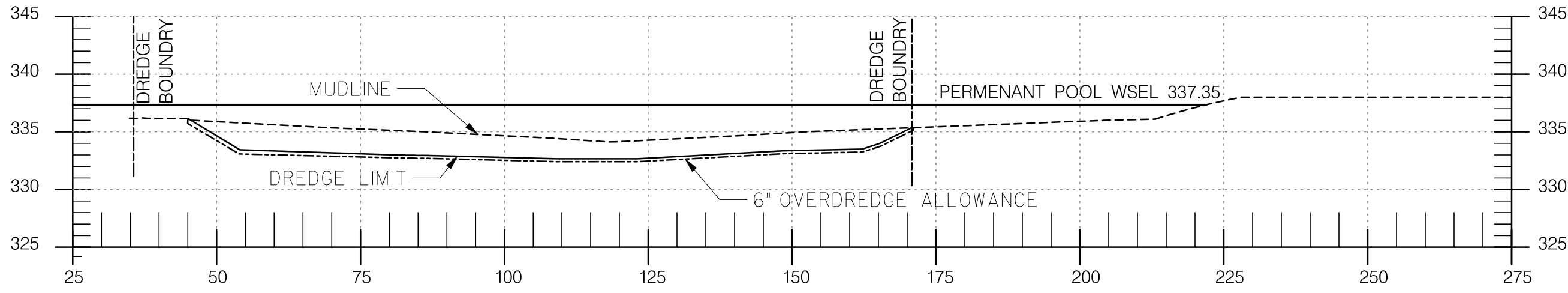
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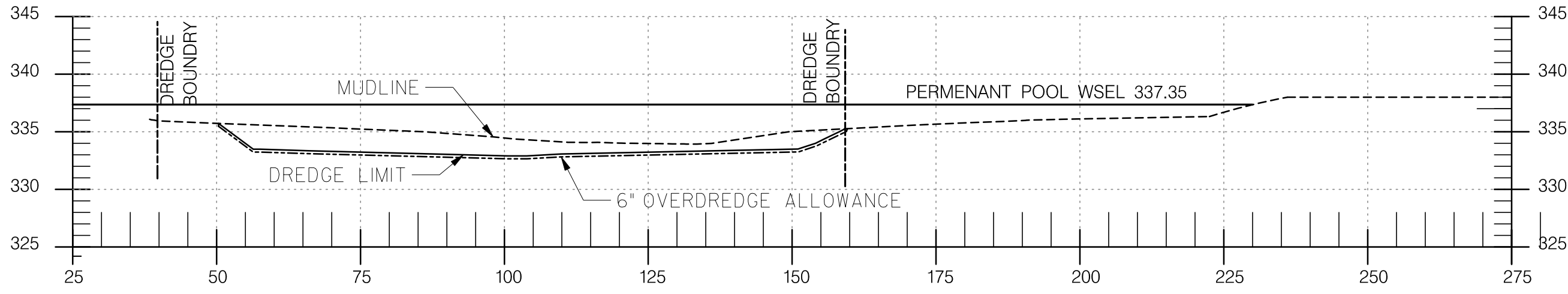
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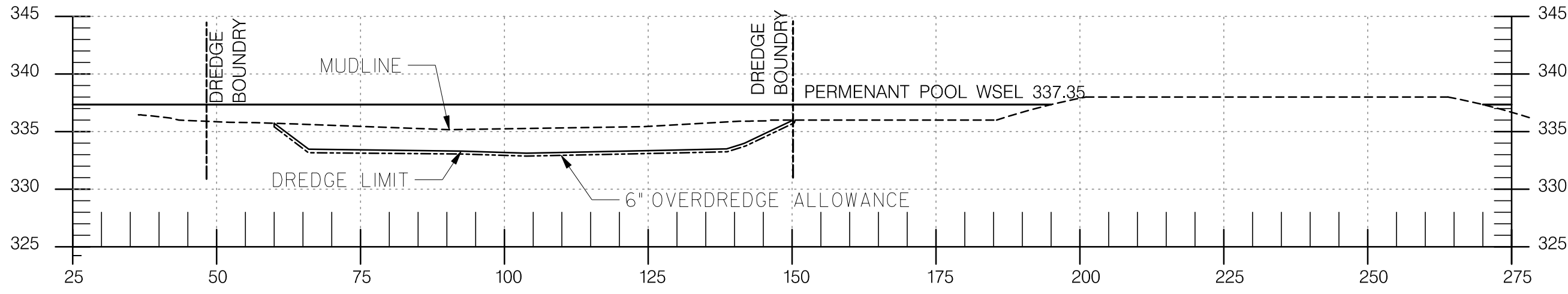
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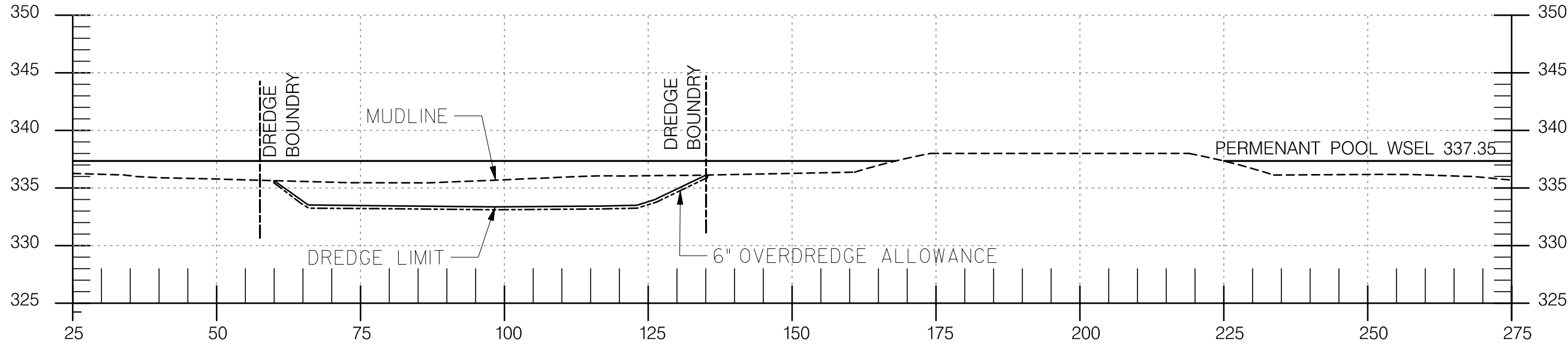
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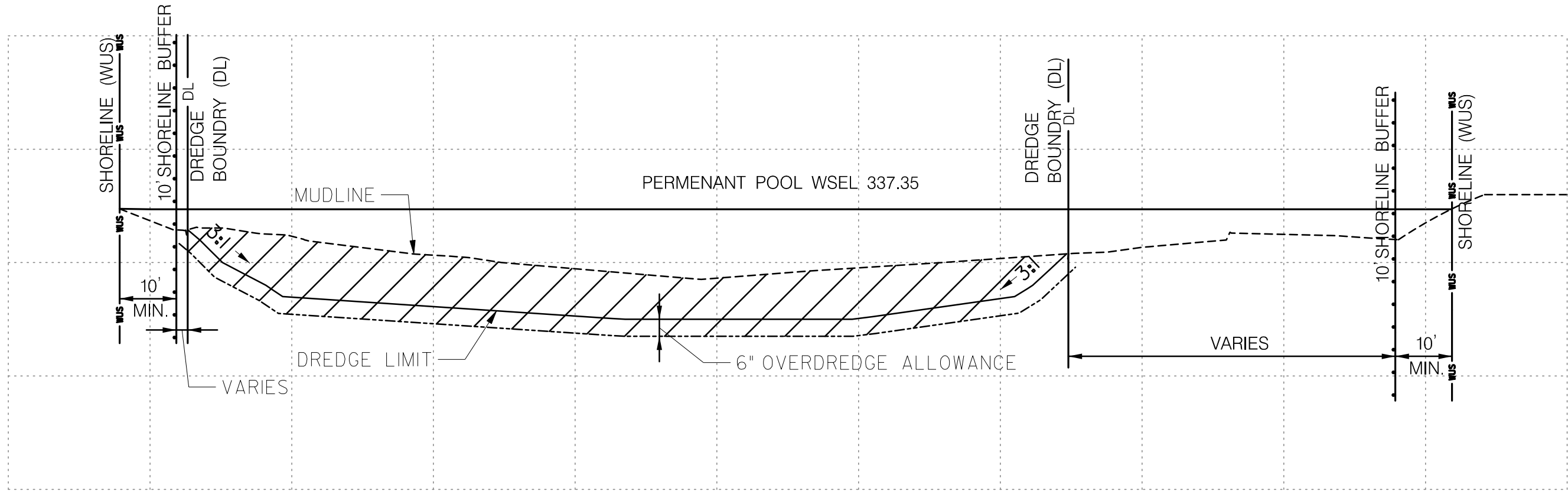
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STATION 3+00



STATION 2+50

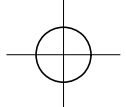
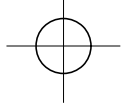
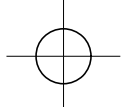


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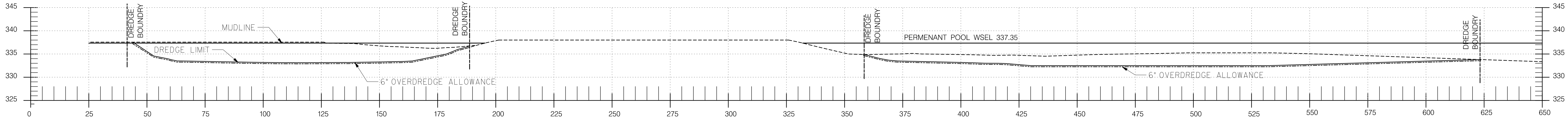
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	DRAWN BY PNK	CONTRACT NO. 0801000108
	CHECKED BY CJB	HORIZONTAL SCALE 1" = 20'
	F.A.P. NO.	VERTICAL SCALE 1" = 10'
DRAWING NO.	CS -01 OF CS -03	SHEET NO. 17 OF 19

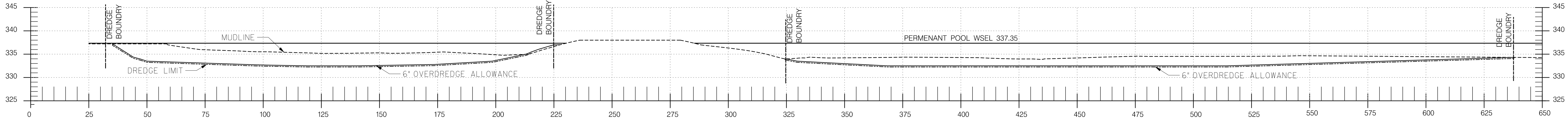
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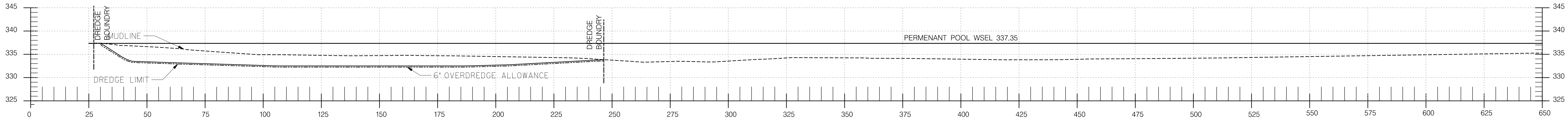
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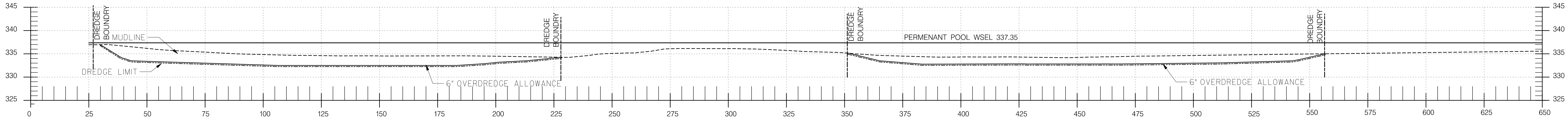
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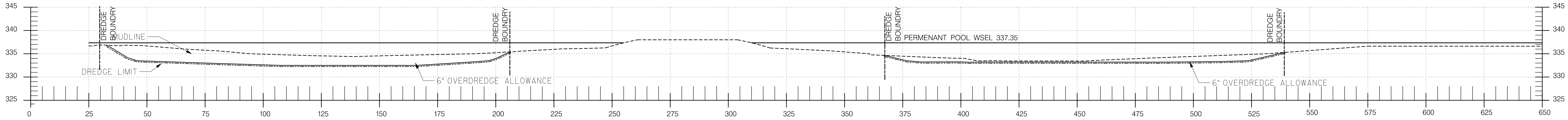
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STATION 6+00

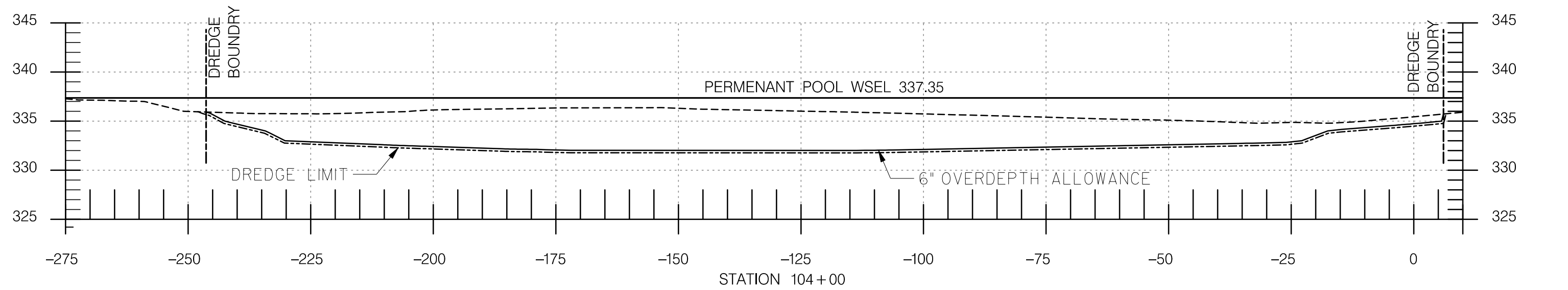
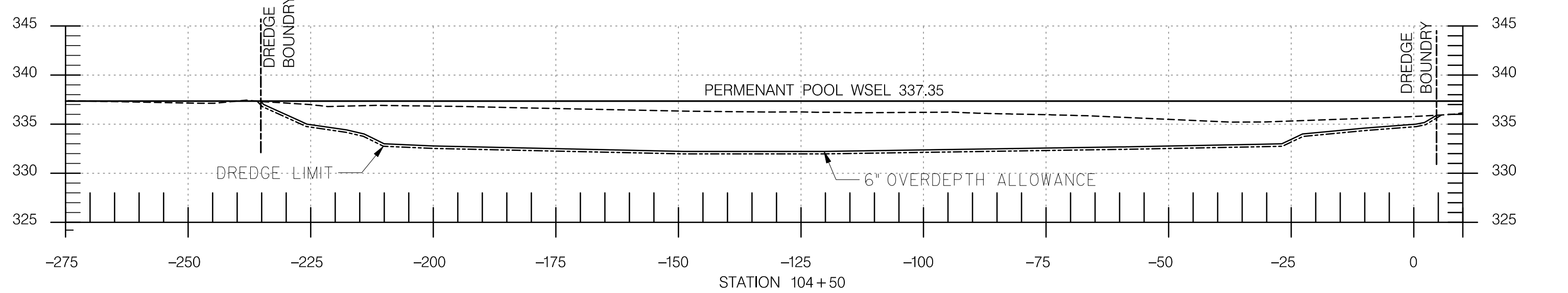
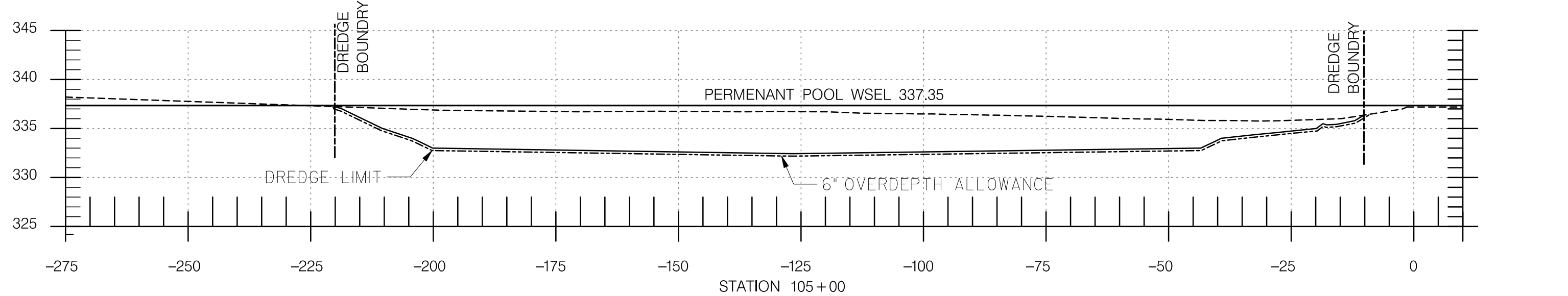
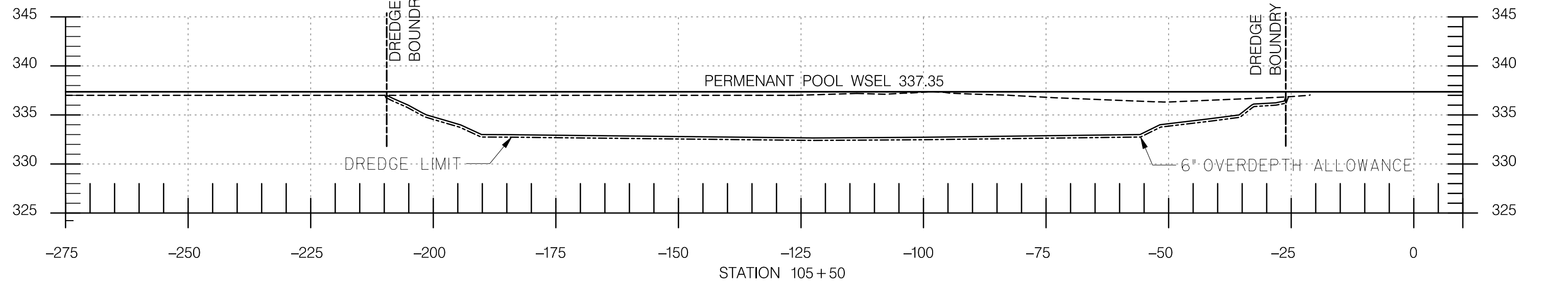
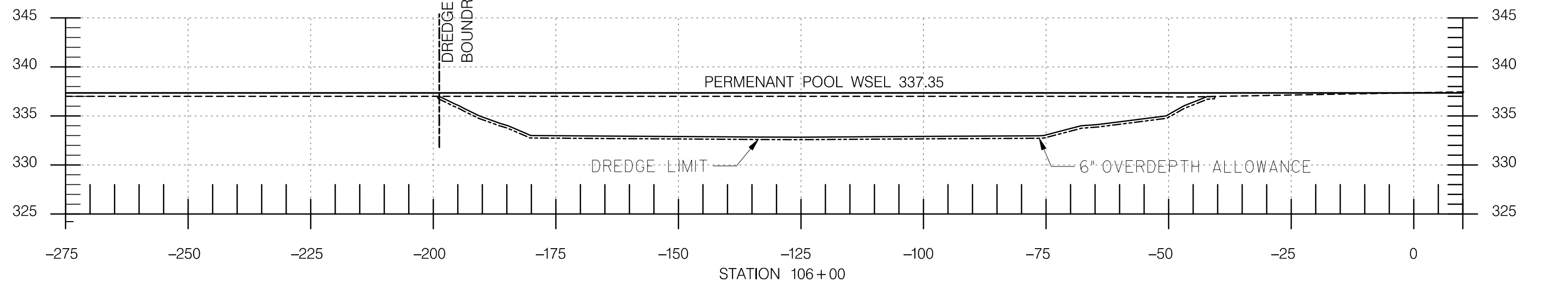
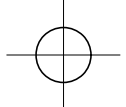
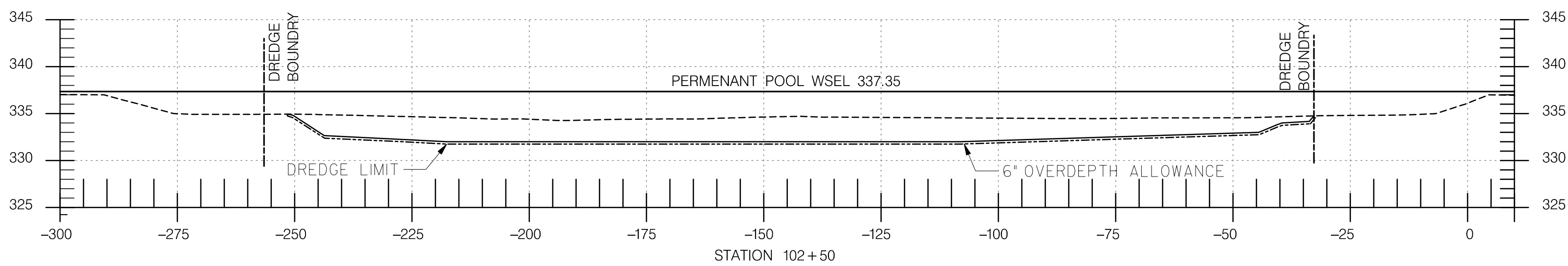
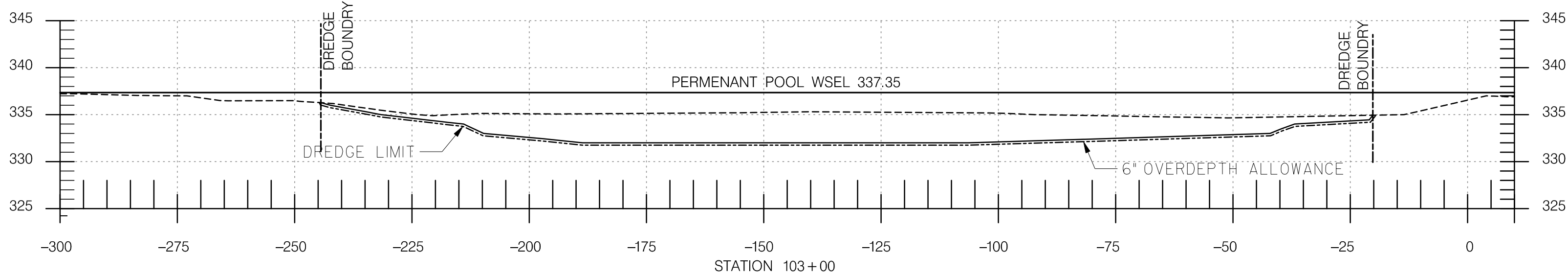
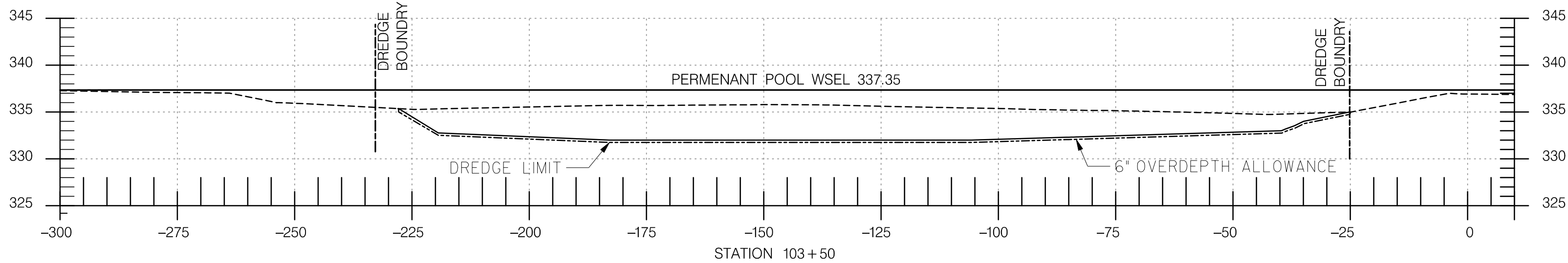
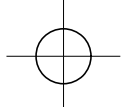


STATION 5+50



STATION 5+00

CROSS SECTION SHEET		ROAD _____ STATION STA. 7+00 TO STATION STA. 5+00	
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION HIGHWAY DESIGN DIVISION GUNNERS LAKE HYDRAULIC DREDGING		DESIGNED BY <u>JMH</u>	COUNTY <u>MONTGOMERY COUNTY</u>
		DRAWN BY <u>PNK</u>	CONTRACT NO. <u>0801000108</u>
		CHECKED BY <u>CJB</u>	HORIZONTAL SCALE <u>1" = 20'</u>
		F.A.P. NO. _____	VERTICAL SCALE <u>1" = 10'</u>
DRAWING NO. _____ CS -02 OF CS -03		SHEET NO. 18 OF 19	



BY: \$USER\$NAME\$

CROSS SECTION SHEET		ROAD _____ STATION STA. 7+08 TO STATIONSTA. 8+39	
STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION HIGHWAY DESIGN DIVISION GUNNERS LAKE HYDRAULIC DREDGING		DESIGNED BY JMH	COUNTY MONTGOMERY COUNTY
		DRAWN BY PNK	CONTRACT NO. 0801000108
		CHECKED BY CJB	HORIZONTAL SCALE 1" = 20'
		F.A.P. NO.	VERTICAL SCALE 1" = 10'
DRAWING NO. CS -03 OF CS - 03		SHEET NO. 19 OF 19	

PLOTTED: \$DATE\$TIME\$
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